DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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RAYNOLDS & NOURSE, PROPRIETORS. OFFICE....QUINCY HALL. SIMON BROWN, EDITOR. FRED'K HOLBROOK, HENRY F. FRENCH, } ASSOCIATE EDITORS.

A NEW VOLUME.

Our most respectful bow was made to old Father Time in our last number, as he floated by us, as gracefully as the thistle's down on the gentle October breeze. Bearing him company through the Past, he has wafted us quietly along his ceaseless current, and landed us on the shores of this NEW YEAR. Happy are we to greet so many fellow-passengers on this side the boundary line, to wish for them continued gales of prosperity, and large exemption from inroads by the sharp "tooth of Time."

To the hundred thousand who compose our conversation Club,—our respected readers—we wish this may be a Happy and pleasant Year. You can do much to make it so, yourselves. Fling regrets to the winds, engage in honest and earnest labor—no matter what it may be—and these blessings will be yours as surely as contentment came to old Izaak Walton's friends who "loved virtue and angling."

It is scarcely necessary to enter into detail of what it is our intention to do in this new year. The age, character and purposes of the New England Farmer are already well known. For nearly thirty years it has been welcomed to unnumbered homes in the country, until it has gained a popularity and strength which enables the Publishers to avail themselves of every improvement of the age which will render it more valuable to the reader. In nearly every State in the Union, in Canada, England and Scotland, its pages are regularly perused. Its purposes are still

"To improve the Soil and the Mind,"

to note the progress of Science, Experiment and the Common Practice, and declare their results, with such reflections, deductions and opinions, as seem to be called for to make them available everywhere on the farm. To accomplish this, men of distinguished ability in all the various departments of husbandry are enlisted with us. Scattered in different parts of the country, they note the progress of improvement—the march of mind—in their locations, and centre them here, whence they are sown broad-cast over the land. In this manner most that is valuable, however remotely it may originate, will be gathered up and laid before you.

To cling to old modes of husbandry would be as wise as to practice old modes of travelling,—and no more so. What was well enough once in many particulars, would be expensive or ridiculous now.

Public favor justifies us in enlarging the Farmer in the book form, to 48 pages, instead of 32, and issue it on the first of each month instead of once a fortnight, as heretofore, although the price will remain the same. This is done to afford more room for a full and free discussion of the new and important phases in agriculture which are constantly coming to light through the aid of science.

The terms and condition of the paper will remain as heretofore. We offer no system of clubbing or premiums, and no modes of "pressure" whatever, to increase our list. We want no man's money who is not satisfied that he gets that money's worth in the paper which he receives.

☞ We thank our brethren of the Press for their numerous and favorable notices, and shall endeavor still to merit their commendations. To those who have gathered up our sheaves and scattered the wheat among their flocks, without informing them where they obtained it, we only recommend an early perusal of Lord Chesterfield!

And now, with coat off, and sinews strong and lusty, we are again ready to enter the field with our fellow-laborers, and go to work "with a will," as the sailors say. While you plow and harrow the soil, we will plow out useful experiments and improvements with the pen, and harrow the world over for your pleasure and instruction. So we are co-laborers, hitched in the same team, and dependent upon each other for smiling fields and bounteous crops.

☞ Weeds exhaust the strength of ground, and if suffered to grow, may be called garden sins.

WINTERING SHEEP.

Winter Arrangements and Shelter.—Late in the autumn, when the grass remains frozen during the most of the day, a few locks of hay or bundles of stalks are sometimes flung out to the sheep. But it is not commonly till the ground is covered with snow that they are brought to the barn and the foddering regularly commences. They are now separated into two or more flocks for the winter. Not more than a hundred or a hundred and fifty sheep should be enclosed in one yard. Where the flock contains two or three hundred sheep it is commonly divided into three parcels. One of these contains all the most healthy and vigorious subjects; the second contains those that are more thin in flesh and feeble; and the third embraces the lambs. Small flocks of a hundred or less have only the lambs and perhaps a few invalid sheep placed in an enclosure apart from the main flock.

The strong sheep are often driven to a stack that has been built upon a knoll or other part of the meadow that needs fertilizing, and are there kept through the winter. Sheds are here provided for them, and not unfrequently they have no shelter whatever save the leeward side of the stack. One of my informants is under the necessity of having his strong flock on a lot four miles distant from his residence. They are constantly foddered but once a day; yet they are passing the winter in as good condition as his other flocks.

The "hospital flock," as it is frequently termed, and also the lambs, are placed each in separate yards, contiguous to the barns, where they have ample sheds for their protection in inclement weather, and can be regularly fed and carefully attended to. As the raw wind of a driving storm, and often snow also, penetrates to every part of open sheds, and the most exposed portion of the flock is therefore but little better sheltered than if it was wholly out in the storm, many prefer stables or enclosed sheds, with only a door for entrance. And some are accustomed to close the door and confine the flock every night, and not let it out at all upon stormy days. As sheep in a storm habitually stand all day huddled together in a small space, it is maintained that they are better off to be kept dry in a stable thirty feet long and ten in width, thereby allowing but three square feet to each sheep. Here they are enclosed every night, and all day in stormy weather, being fed in a rack the length of one side of the stable. This space is deemed sufficient for that number of sheep, and no injury has ever resulted from such close confinement, except that sometimes towards the latter part of the season the wool has been slightly started on the sides of some of them in consequence of rubbing so much against each other.

Winter feeding, hay.—At the present time, hay is the chief, I may say the only article of food on which our flocks are sustained during the winter season. Well made hay of a good quality, it is admitted on all hands is the only kind that is suitable for sheep. Coarse sedge and bog hay they will not touch. Short hay that grows in natural meadows, containing some timothy but consists mostly of red top, and a variety of other grasses, is far better than the clean timothy that is cut from newly seeded fields. It should be fed regularly thrice each day. Almost every sheep yard is furnished with mangers or racks for feeding, for where it is scattered it is spoiled by the animals running over it. The common mangers in use, which are about as good and economically made as any, are square boxes formed of rough boards, the length of the board and about three feet wide without bottom or top, and with an opening the length of each side, sufficiently wide to admit the head and not the body of the sheep. The hay is thrown in at the top, and whenever the bottom becomes filled with snow, ice, and grass seeds, these boxes are readily elevated or set on other spots in the yard.

Though hay alone is mostly used for wintering sheep, every farmer adapts himself to the amount and supplies of this and other kinds of provender. If his store of hay is short, straw is made use of once a day, or unthreshed oats, which latter are regarded by most of our farmers as being economical, thus alternated with hay, as hay alone. Corn stalks too are excellent for sheep. And when we recur to the fact that there is no other one of our domestic animals that relishes so many different species of vegetation as the sheep, we seemingly are doing violence to its nature when we confine it to dry hay alone nearly half the year. Unthreshed oats, or some other food once each day, or each alternate day, will probably keep a flock in better condition than an equal value of hay alone.

Thus, with one kind of food or another, every husbandman makes it a point to keep his flock constantly in good order, well knowing that if this is not done he will be a loser thereby ere grass comes in the spring. Sheep more than any other stock must not be allowed to become poor. Whenever a sheep gets so weak that it is unable to stand (as some will where a flock is scantily kept) all efforts to recruit it are unavailing. Once down it is down forever.

About five and a half months is the length of time sheep require to be foddered by us; and the keeping of ten sheep is currently regarded as equivalent to that of one cow. Fourteen or fifteen tons of hay is the least that a hundred sheep can be carried through the winter upon, and if fed more liberally they will consume twenty tons without any waste.

Expense of keeping Sheep.—As we have already seen, the annual income from sheep, of the kind of which most of our flocks are composed, has of late years been less than one dollar and twenty-five cents each. Nay, it is known to be a fact that many of our common flocks in some of these years have brought their owners a return of only seventy or eighty cents to each sheep. How this compares with the expense of their keeping we come next to examine.

The current charge for pasturage is from one and a half to two cents per week. The first of these sums is the lowest for which pasturage is ever hired, and it is not only upon the mountain lands adjoining us in Vermont that it can be obtained for that price. And the time required in driving and occasionally repairing hither to see to the welfare of the flock is more than equivalent to an additional half cent. Sheep are pastured somewhat more than half a year; say thirty weeks. This at two cents per week amounts to sixty cents. When pasturage is hired by the season, however, as it sometimes can be, the current charge is fifty cents.

Twenty-five acres of good pasture land is required as the least that is adequate to sustain a hundred sheep. Such land is sometimes bought for twenty-five dollars per acre, though it is current-

ly valued at five or ten dollars higher than this. Six hundred and twenty-five dollars then may purchase the requisite amount of pasture land for maintaining one hundred sheep. Thus without taking into account the cost of keeping up fences, &c., the mere interest on the value of the land will be forty-three dollars and seventy-five cents, or forty-three and three-fourths cents for each sheep. On the whole, therefore, fifty cents must be regarded as the lowest sum for which a sheep can be kept through the summer.

With respect to wintering. Fourteen tons of good hay is the least quantity that any one supposes the strictest care can carry a flock of one hundred sheep through the winter upon, and more than this is usually fed.—*N. Y. Transactions.*

For the New England Farmer.

HOW TO MEASURE AN ACRE.

The *Farmer* of last week contains an article, which is also copied into this week's *Congregationalist*, from the *American Farmer*, headed "How to Measure an Acre," which, if correct, "will not only be valuable to farmers," and "to the reader generally," but certainly "knocks into *pi*" all my previous conceptions of *square measure*, and, indeed, of all measure.

In order to understand the following *analysis*, please refer to the article, which you will find in the *New England Farmer*, (weekly,) for Nov. 29th, 1st page, last column, near the bottom:

"Land—30¼ square rods make a square rood."

According to my "Arithmetic" 40 square rods make one square rood.

"4819 square yards make one acre."

I supposed before that 4840 square yards make an acre, "or 157 rods make one acre."

According to foregoing statement, viz.:—30¼ square rods make a square rood; 4 square roods make 1 acre,"—121 rods make 1 acre;—but instead of either "121" or "157 rods make one acre," 160 rods make an acre.

"In measuring an acre by yards, the usual practice is to trace off 79 yards in length and 79 yards in width; this, in a rough way, may be considered near enough for practical purposes."

Rather too "rough," as 79 by 79 produces 6241, which is 1422 more than 4819, said above to be an acre, and 1401 more than 4840, the *real* number of yards in an acre.

"But as 79 yards either (each?) way makes 4999 square yards."

This must be by their *new system* of multiplication.

"It exceeds one acre by 69 square yards."

4999 exceeds 4819—said above to be the number of square yards in a square acre, by 180; and, it exceeds 4840, the *true* number of yards in a square acre, by 159.

"To determine an accurate acre, it should be measured 78 yards in length by 66 1-7 yards in breadth."

By my system of multiplication 78 by 66 1-7 produces 5,159 1-7, which is 340 1-7 more than 4819, *one* of their square acres, and 229 1-7 more than 4930,—the difference between 4999 and 69, *another* of their square acres,—and it is 319 1-7 more than 4840, *my* square acre.

"The same result may be arrived at by measuring 229 feet in length and 196 feet in width."

229 multiplied by 196 produces 44,884, which, divided by 9, the number of square feet in a yard, gives 4987 1-9. Is that the same as 78 by 66 1-7?

"Or, by measuring 78½ yards in length by 66 yards in breadth."

78½ by 66 produces 5170, which is neither 5159 1-7, the product of 78 into 66 1-7,—nor is it 4987 1-9, the product of 229 feet into 196 feet, reduced to yards.

There, according to all my "*mathematics*," in the 14 lines now under review, there are two, and *only* two truths communicated, viz: "4 square roods make 1 acre," and, "640 acres make 1 square mile," together with an almost endless number of mistakes and contradictions, some 15 of which I have named above. No less than 5 different numbers are given as the *accurate* number of square yards in a square acre, *no one* of which is correct.

Can you wonder that I am perplexed, when I remember that this "rule" was taken from the *American Farmer*, and after passing the keen scrutiny of the *New England Farmer's* Editorial *Quinary* and the Theologico Editorial *Quaternary* of the *Congregationalist*, is given to their fifty thousand readers as "information not only valuable to farmers, but to the reader generally?"

Will you, Messrs. Editors, kindly come to my aid? Please say where the difficulty is; whether in the *southern latitude* of the *American Farmer*, in the much-abused, yet patient *types*, or in the *brain* of a constant and interested

READER OF THE NEW ENGLAND FARMER.

South Weymouth, Dec. 6th, 1851.

REMARKS.—The error cannot be in the brain of our pains-taking and "constant-reader," we are confident. It might have been a *dolt-head* who compiled the article originally, and his blunderings since magnified by the types. We cannot relieve you, and must rest satisfied with your results until we are caught at a country inn on some rainy day, where there is nothing to read but a last year's almanac. It makes one's head ache to think of the labarynth of figures in which you have been involved, and draws from us hearty thanks that you noted the errors, and were so obliging as to correct them yourself.

FARMERS' DWELLINGS.

We need a great improvement in this respect; we need a distinctive *rural style of building*—comfort and convenience combined with neat and simple elegance. Nothing expensive, gaudy or obtrusive, but graceful in form, chaste in ornament, with quiet, neutral colors, sweetly blending with the surrounding green, all breathing an air of peaceful calm repose on which the eye may rest with pleasure. I would gladly enlarge upon this did time permit. The house should not only be sheltered, but adorned with trees—none more beautiful than those of our own forests.

A few choice fruit trees of various kinds, with grapes and smaller fruits which need but little care, with flowering shrubs and ornamental climbers, should be there. None of the adornments of beauty are more graceful or attractive than fragrant and blooming vines around the rustic porch. And let there be a garden, too—it need not be a large

one—not the unsightly patch of neglected earth sometimes so miscalled, intended for potatoes and cabbages, but filled with burdock and nettles, but a neatly arranged plat for shrubs and flowers, laid out with taste and kept with care—cultivate a taste for flowers, and teach your children to love them. In doing so, you give them new sources of pleasure—new facilities for enjoyment. And do not deem the time they bestow upon them lost time; it is well bestowed, and will yield a rich return in pure and simple joy, and the cheerful love of home. —*Address of T. D. Burral, before the Ontario Agricultural Society.*

ENCOURAGEMENTS.

Many hearty respondings are coming to us from every quarter; our efforts appear to meet with favor and stimulate a corresponding zeal in the friends of an improved course of husbandry every where. New facts or the skilful discussion of old ones, interest and draw out new friends in the great cause. A new love for country life and for rural occupations is growing up in the bosom of many who have ever looked upon them with indifference if not disgust. This love has been principally created by agricultural papers: by judicious representations of country scenery, life and occupation, and the helps they find there to lead useful and happy lives in country districts.

An esteemed correspondent in *closing* a communication in relation to an experiment with fowls, says:—"It pays well to take agricultural papers. The increase realized is owing to skill in management derived from reading agricultural papers and books. Without them I should have had no faith in the economy of keeping fowls, and should have lacked the requisite knowledge to make them pay their own way and the care of them. The papers cost but little in comparison with the 'material aid' they bring to every tiller of the soil, or grower of stock. The farmer's stock in papers is altogether the most profitable stock he can keep. * * * The mightiest sinews of war, in man's battle with the clods, is '*agricultural science.*'"

A correspondent in another section of the country, in speaking of the needed reforms in the common practice and of the subject in general says:—"I believe the Farmer is rapidly gaining popularity in this region." We quote one other paragraph, and trust in so doing that we shall not invade the sanctity of a confidential letter. It is this:—

"When I was but a youth, I formed one decision to which I wish to adhere. It was this. *I would make it the leading motive and aim of my life to be useful.* Every other interest, of fame, or of wealth, or of pleasure, should be subservient to this."

These few simple words comprise our whole duty, and they were uttered as a sort of explanation by a professional man for engaging his thoughts in matters relating to the farm, in accordance with that sense of duty implied in his remarkable words.

Another correspondent in alluding to the death of Mr. Cole, after giving us a hearty welcome, adds:—A kind "Providence has not left the field he was wont to cultivate to go untilled. The work of agricultural reform will not lack agents to carry it forward, for God's hand is in it. It is identified too closely with human welfare to be forgotten of him. Though a clergyman, I am a farmer's son, and a gardener, and make experiments both in crops and stocks, and I regard your professional business and my own as intimately connected."

There is a more intimate relation with each other in all our various avocations than most persons have found time to observe. Our standard ought to be to labor on cheerfully in our office, whatever it may be, and brink our work to perfection! Nothing short of perfection should satisfy us; and when the leading motive and aim of life shall prevail to be *useful*, then excellence will crown our efforts as surely as the meridian sun is the crowning glory of the day.

THE APPLE CROP.

When, a few years since, the distillation of cider began to be discontinued, many men were very much frightened on account of the entire loss of their orchards, and a few persons began to cut down their trees. Previous to this time, apples picked up and carried to the mill, had been worth about six cents a bushel, and cider at the press, sixty to seventy-five cents, sometimes less. When the trees bore well and the ground was smooth and free from high grass, small stones, and all things that could trouble in picking up, and the mill was near, you could get your apples gathered and the cider made for one-half of it, minus every tenth barrel for the use of the mill. The apples in the orchard, ungathered, were worth about three cents a bushel; "sauce" and "drying" apples ten to twelve. If gathered, fifteen to seventeen cents, and prime, nineteen, apples of grafted varieties twenty-five cents.

But as temperance progressed, and the distillery fires ceased to burn, and cider as a drink began to be discarded, the complaint of an overstock of apples became less, cider rose to a dollar or more a barrel, and apples in proportion, and to this day the price of apples has advanced just in proportion as the quantity of cider has diminished. For three or more years, cider apples have been worth, delivered in the fall, about twelve cents; common cooking apples twenty-five to thirty-seven, and grafted winter fruit, fifty to seventy-five. Now what has caused all this change? In the first place apples have been found worth ten to fifteen cents to feed to stock. The curious idea that they contained no nutriment, and would diminish the quantity of milk if fed to cows, has been entirely exploded. If you will have cider you must pay what the apples are worth for other purposes, and for making, besides.

Then again, the time was, and not many years since, when we had but few villages so thickly settled but that each family could raise their own fruit. Now, with us, the villages of North and South Adams, Lee, Barrington, West Stockbridge, and Pittsfield, to say nothing of others, furnish a

market for more apples for eating and cooking than the county furnished thirty years ago. Look for a moment to that little world of brick walls which we call New York, with its hundreds of thousands of apple-eaters, and all to be supplied by others, out of the surplus remaining after their own wants are supplied.

Look at our other large cities, Boston, Philadelphia, Albany and hundreds of lesser ones. Then look at the broad south. Why, the market is not one quarter supplied. But the prices are most extravagantly high. The ground which would bring, at an average of the seasons, five dollars worth of greening apples, at present prices, would not keep half a sheep, or the tenth part of a cow. If cider apples were valuable productions at six cents per bushel, good grafted apples should be offered at fifteen to twenty at the orchard, gathered in the usual way, and should be picked and barrelled at twenty-five cents. And when the price comes thus, the demand will be increased four fold with the present number of inhabitants. They will thus become a profitable article for daily consumption in families where they are now only occasionally admitted as a luxury.

But the population is constantly and rapidly increasing, and this increase is mainly of non-producers, especially in the old States. The farming, fruit raising population is remaining about stationary, in many towns decidedly decreasing, while the increase is in the commercial and manufacturing cities and villages. This we deem an important consideration, in a correct estimate of the future demand.

Viewing, then, the present scanty supply, at the very high prices, the increased consumption which would follow, a reduction of price, a reduction which improved culture and a judicious adaptation of kinds to the varying seasons of the year would permit, and yet remunerate the producer, and the increase of population; that increase being almost wholly consumers. We believe there is no danger of a surplus until the quantity is increased twenty fold. And if the time should come when it will not pay for sending to market, it will be worth more than the cost of production to feed to cows, hogs, and horses at home.—*Culturist and Gazette.*

SALT AS FOOD FOR PLANTS.

Professor Way, chemist to the Royal Agricultural Society, in a lecture on this subject, stated as a conclusion to which his investigations had led him, that common salt was neither directly nor indirectly a constituent of the food of plants. He stated, however, as his belief, that salt did, in some instances, produce an action beneficial to vegetation, on some soils. He had not carried out his investigations to such an extent as to say, positively, to what this effect is attributable, but he was "led to believe that the common salt acted on certain silicates of lime present, in a way as yet not understood; and at the same time as it afforded a supply of lime to plants, gave rise, probably, to a modification of silica, important to the straw of the cereals."

In reference to Prof. Way's remarks, other members of the Society gave the results of their experience in the application of salt to land. Col. Challoner said he did not consider it acted simply as a manure on grain crops, "but it stiffened and brightened the straw, and caused it to ripen from 3 to 5 days earlier than it would otherwise have done." Mr. Barrow has found salt improve the strength and quality of his wheat straw, his neighbors' crops having been laid while his stood well. Mr. Mechi said—"without being able to give the scientific reason, salt gave strength and brightness to the wheat straw and prevented its lodging." He applied it at the rate of 3 cwt. per acre, mixed with the same weight of guano.—*Selected.*

For the New England Farmer.

"NEW ENGLAND FARMER."

BY F. HOLBROOK.

The name, "New England Farmer," is a time-honored name. The journal first bearing it was most ably conducted through many volumes, received the patronage and contributions from the pens of men of the highest talent and influence, circulated among the farmers far and near, and fertilized the soil wherever it went. Most of its earliest contributors, together with its first Editor, men of a former generation, have passed from this life. Who that knew them, or that now knows of them, ever failed to render them profound respect? They were an honor to their age and country; they finely illustrated all those characteristics which distinguish man as a reasonable and an intelligent being, as an independent, a high-minded and public-spirited citizen; their zeal in forwarding the improvements of Agriculture amounted to no less than untiring enthusiasm; and their efforts gave a lasting impress to the agriculture of New England. Their contributions to the old journal are remarkable for vigor and comprehensiveness, and for practical adaptation to the wants of the farmer; and many of them, if republished in the New England Farmer of to-day, would grace and enrich its columns, and instruct its readers.

Then think of that old veteran agricultural soldier, THOMAS GREEN FESSENDEN, the first and principal editor of the old journal—a man whom every body knew, and honored for his talents and loved for his virtues. He was a most assiduous and untiring laborer in his vocation. To a practical knowledge of the processes of agriculture, he added an acquaintance with all the writings of merit upon husbandry, a respectable knowledge of science generally, a taste for literature, a rich vein of humor, and perfect readiness of pen in imparting all the information upon any subject in hand which could be elicited from books or from other sources. From early boyhood, he had an ardent love for agriculture. Hear him, in one of his editorials written in old age, express his increasing fondness for it: "We may, perhaps, be allowed to state that our predilections to the Art of all Arts, increases in a direct proportion to the attention we bestow on it; for like everything else possessing intrinsic excellence, the more intimate the acquaintance, the more obvious are its merits—the more we explore the avenues of culture, the stronger the perception that its ways are profitable as well as pleasant, and 'all its paths are peace.' And, indeed, the world is becoming practically impressed with the primary importance of those pursuits which feed and clothe the human race; and to which we are indebted for all that makes life a blessing, or gives civilized a superiority over savage existence."

I have all the volumes of the old Farmer, and

prize them very highly, often consulting them, for the information desired. Turning over their leaves, I cannot but admire the untiring research of the editor, and that he did not hesitate to draw in contributions to its columns, in the form of timely and tasteful extracts, agricultural, scientific and literary, from all sorts of books and periodicals. Inquiring for the causes of the wide-spread influence and usefulness of the old journal, I am led to conclude that they are to be found in the power with which it treated of practical agriculture, and in the point and aptness of its scientific and literary extracts,—such extracts being of a character to interest the farmer, to *provoke* him to a further knowledge of the subjects to which they alluded, thus tending to create a desire for general reading and for mental culture.

What should be the aim of the Editors and Correspondents of the "New England Farmer" of to-day, to make it a journal interesting, instructive and highly useful to the farmer?

I will briefly submit a few propositions, which appear to me to be, in part, an answer to this question.

1. The men now cultivate the soil of New England, who are perfectly competent, if they please, to sustain the columns of the New England Farmer most ably. No one should hesitate to communicate his experience in farming. No *one* writer can give the best and most reliable information upon *all* agricultural subjects. One man can treat of some subjects "like a book," and another of some other subjects; hence a goodly number of correspondents, each giving information upon those topics which have most deeply engaged his observations and thoughts, will give freshness, variety, originality and ability to the journal; and upon the principle of the motto, "Help one another," all will be entertained and instructed.

2. The Editors and Correspondents of the New England Farmer should keep its columns well-stored with articles inculcating good sound practical farming. By the expression "sound practical farming," I do not mean that the farmer should be urged to hug old customs because of their antiquity. Some of the old methods of culture are good to-day; others were proper in earlier times and circumstances, but are wholly improper and out of place in these times; and to persist in the practice of them now, when new and better modes have been discovered, is anything else than *sound practical* farming. Without hastily embracing theoretical speculations, the New England Farmer should yet be up even with the spirit of progress now so generally moving the great business interests of man, and keep pace with the foremost in endeavors to give currency to any and all improvements calculated to better the condition of the soil and of its owner. Its readers should be told how to increase and apply manures for the speedy and profitable restoration of fertility to exhausted soils, and since the capacity of mother earth for production is at present almost undefinable, how the harvests of our most prolific soils may be increased. They should be advised as to what constitutes good tillage, in all its manipulations, how their estates may be made more valuable, their crops and their annual cash income increased.

3. In addition to a full assortment of articles upon the practical details of good husbandry, the pages of the journal should be graced with occasional papers considering agriculture in its relations to man as a social being, and in its comprehensive relations to society, to great National interests. Articles of this sort may admit an elegant diction, a high order of composition. The farmer has interests besides those pertaining to mere dollars and cents, and should occasionally contemplate the native dignity, the pleasures and the comprehensive relations of agriculture. My eye this moment rests upon an editorial article in the old New England Farmer, written by Mr. Fessenden, from which I am tempted to make a short extract, illustrative of my meaning. He says:—"We are highly gratified in observing that the interest which attaches to the primitive and most important of the arts is every year perceptibly increasing in zeal, knowledge and perseverance. If we still continue thus to press forward, we cannot fail in the common course of events to become not only prosperous as individuals, but powerful, respectable and respected as a nation. Improvements in agriculture are pioneers, heralds and companions of all other improvements. The accurate science and correct practice of tillage alone can precede and introduce the charms, the decorum, the dignity as well as the substantial and indispensable requisites of civilization. If Ceres did not sustain the Graces, as well as support Minerva and her retinue, they would disappear as the tints of the setting sun fade in the sky when evening advances." This extract is a good example of comprehensive, elegant writing. The graceful and pointed illustration in the last sentence, coupling an allusion to the ancient classics with a beautiful figure of the writer's own, showing the dependance of all upon agriculture, is fine. If the objection be raised that such writings are unadapted to the tastes and wants of the tillers of the soil, I reply that many of them do perceive the merits of fine compositions, and that the number of such is rapidly increasing; and if others can only appreciate those articles directly addressed to their cupidity, it is high time to begin an effort to elevate their tastes.

4. There should be articles in the paper from time to time, reminding the farmer that "mind makes the man," and that it is at once his interest, his duty, and his high privilege, to expand, ennoble and refine his mind by cultivation. It is his interest to do so, because his calling brings him in daily contact with the great and more or less intricate laws of nature, which cultivated mind alone can penetrate, and an intelligent understaning of which has a direct money bearing upon his business: it is his duty, because a cultivated mind enables him to take high rank and to wield a large and good influence in society, because he cannot properly discharge his obligations as a citizen of the Republic without intelligence, and because the proper regulation of the passions and cultivation of the intellectual faculties is a sacred trust committed to him which he is by every principle bound to respect and improve: it is his privilege, because with a mind expanded and refined by knowledge, he is in a condition to perceive and pursue noble ends, to make high attainments, and to enjoy pleasures of which an ignorant man is incapable, and because so far he is realizing the designs of the Creator, who endued man with mind that he might here enter upon

a path-way of progress in knowledge and happiness, having nothing short of everlasting for a limit.

It is clear to my mind that an agricultural paper fails of discharging its whole duty to the farmer, if it does not, with line upon line, impress him with the importance, the necessity, of education. It should remind him that in the most hurrying seasons of the year, while his hands are busily engaged in the labors of the farm, his mind may find abundant materials for observation and thought, and thus for improvement. It should speak to him of the many hours, or half-hours, at all seasons of the year, which he may devote to reading, of the long winter evenings, of those cold inclement wintry days, those days

"When Boreas, blustering, piles the snow-drift chill,"

all of which, if improved by reading, will do wonders for him. The editor should always be mindful of him in this regard, and by friendly counsels, and by judiciously selected articles, gathered in from all sources, may jog his mind as to the subjects worthy his investigations,—thus contributing to his pleasure and improvement.

5. The New England Farmer should occasionally contain articles, illustrated with engravings, calculated to create in the public mind a chaste rural taste. The neat modest cottage with handsome grounds adorned with flowers, shrubs and trees, has a most potent influence for good upon the mind. Our farmers, and the dwellers in country towns generally, would undoubtedly find both pleasure and interest promoted by a more rural style in building and in the arrangement of grounds, than commonly prevails. Many farmers have ample means to adorn their estates, and the number of those who are desirous of doing so is constantly increasing. Even those who are not wholly out of debt, but who by enlightened well-directed industry are enriching their lands and increasing their income, may at the same time, in a hundred little inexpensive ways, embellish home, thereby increasing its money value much beyond the cost of such adornments, making it an attractive place, which will most likely make it a happy place. What more fitting influence than an attractive rural home, intelligent, industrious thrift there reigning, to make its owner virtuous, a lover and firm defender of country, a man worthy of citizenship under free institutions, and to bring around his family all that simplicity, innocence and happiness which this world can give. Well has the poet pictured such a condition of things:

"Now sober industry, illustrious power!
Hath raised the peaceful cottage, calm abode
Of innocence and joy; now, sweating, guides
The shining plowshare; tames the stubborn soil,
Leads the long drain along the unfertile marsh;
Bids the bleak hill with vernal verdure bloom,
The haunt of flocks; and clothes the barren heath
With waving harvests and the golden grain.
Fair from his hand behold the village rise,
In rural pride, 'mong intermingled trees!
Above whose aged tops the joyful swains,
At even-tide descending from the hill,
With eye enamoured, mark the many wreaths
Of pillared smoke, high curling to the clouds.
The streets resound with labor's various voice,
Who whistles at his work. Gay on the green,
Young blooming boys, and girls with golden hair,
Trip nimble-footed, wanton in their play,
The village hope. All in a reverend row,
Their grey-haired grandsires, sitting in the sun,
Before the gate, and leaning on the staff,
The well-remembered stories of their youth
Recount, and shake their aged locks with joy.
How fair a prospect rises to the eye,
Where beauty vies in all her vernal forms,
For ever pleasant, and for ever new!
Swells the exulting thought, expands the soul,
Drowning each ruder care; a blooming train
Of bright ideas rushes on the mind,
Imagination rouses at the scene;
And backward, through the gloom of ages past,
Beholds Arcadia, like a rural queen,
Encircled with her swains and rosy nymphs,
The mazy dance conducting on the green.
Fat on the plains, and mountain's sunny side,
Large droves of oxen, and the fleecy flocks,
Feed undisturbed; and fill the echoing air
With music grateful to the master's ear.
The traveller stops, and gazes round and round
O'er all the scenes which animate his heart
With mirth and music. Even the mendicant,
Bowbent with age, that on the old gray stone,
Sole-sitting, suns him in the public way,
Feels his heart leap, and to himself he sings."

BREEDING HORSES.

The report of the committee on horses, for the Chittenden County, Vt., Agricultural Society, contained some good remarks. In addition to the hereditary transmission of qualities, it observed, "The progeny will inherit the united qualities of the parents. The good as well as the bad qualities will descend from generation to generation. Hence you will see the importance of a knowledge of the parentage, not only as to the sire but also as to the dam. Peculiarity of structure and constitution will also be inherited. This is an important consideration, though too much neglected, for however perfect the sire may be, every good quality may be neutralized, if not overcome, by the defective structure of the dam. Let the essential points be good in both parents; but if there must be some minor defects in the one, let them be met and overcome by excellencies in those particular points, in the other parent. We would also advise you to let your breeding mares be in the full vigor of life. Do not put them to the horse too young, and especially do not let your mares be incapacitated for work by reason of old age. If so, you may expect that the foal will have a corresponding weakness, and scarcely will a single organ possess its natural strength. Our farmers are usually too negligent in the selection of their mares. They are tempted to part with their best mares, and to breed from those which are inferior."

The committee speak of a young horse of the Morgan stock, bred by Judge Bennett, as having "great compactness of structure and action of the best kind."

IGNORANCE OF GREAT PHYSICAL TRUTH.

How few men really believe that they sojourn on a whirling globe, and that each day and year of life is measured by its revolutions, regulating the labor and repose of every race of being. How few believe that the great luminary of the firmament, whose restless activity they daily witness, is an immovable star, controlling, by its solid mass, the primary planets which compose our system, and forming the gnomon of the great dial which measures the thread of life, the tenure of empires, and the great cycles of the world's change. How few believe that each of the millions of stars—those atoms of light which the telescope can scarcely descry—are the centre of planetary systems that may equal, if not surpass our own? And how very few believe that the solid pavement of the globe, upon which they nightly slumber, is an elastic crust, imprisoning fires and forces which have

often burst forth in tremendous energy, and are at this very instant struggling to escape—now finding their way in volcanic fires—now heaving and shaking the earth—now upraising islands and continents, and gathering strength for the final outburst which is to usher in the new heavens and new earth "wherein dwelleth righteousness." Were these great physical truths objects of faith as well as deductions of reason, we should lead a better life than we do, and make a quicker preparation for its close.

For the New England Farmer.

DOMESTIC POULTRY—HEN HOUSE.

BY G. TILLINGHAST HAMMOND.

A poultry house need not be expensive and yet be as good for the farmer as one with fancy fixings that no one knows the use of. Of whatever shape, it is better to have it too small than too large, in winter especially. For if too large the hens get together in one corner in order to keep themselves warm. While, if of the right size, they can promenade as much as they please; and have the proper amount of exercise.

If you have plenty of room in your stable or barn, a room partitioned off there will do. Having built the partition, all the cracks should be well battened up to make it warm. It should have good sized windows fronting toward the south, if possible, and it should be well whitewashed, both for neatness and to make it lighter. Then divide it into two apartments; one to be used for the roosting room, the other for their occupation during the day. It would be better if they had no access to the roosts in the day. The day room should be furnished with gravel, chalk, old mortar, and such other materials, to assist in making the shells to their eggs. Also sand and ashes, which are good for a dust bath, put into shallow boxes so that the room may not be made untidy. The room should have a good plank floor which should be often swept.

If you wish them to lay in winter they must be furnished with animal food, and vegetables, every few days, beside their regular supply of grain, which, in my opinion, had better be kept in hoppers constantly before them.

Nests can be made in a great many different ways. Some use barrels, which answer well; small boxes, however, are just as good and take up less room. They should be filled with good clean straw with one nest egg, (better artificial;) as soon as laid the eggs should be taken from the nest, or at least as often as once a day.

In summer, if your fowls have a large yard to roam in, it will not be found necessary to furnish them either with meat or materials to make the shells of their eggs, for they will get them from the earth.

In the spring a yard should be fenced off for them in which they will thrive better without doing any mischief than if they were allowed to run at large, in which case they are often very troublesome in newly-sowed fields. The roosting room should be thoroughly cleaned as often as once or twice a week, and the floor sprinkled with lime.

If these few directions are carefully attended to we will ensure an abundance of eggs.

Brooklyn, N. Y. Dec. 1st. 1851.

BLANKET YOUR HORSES.

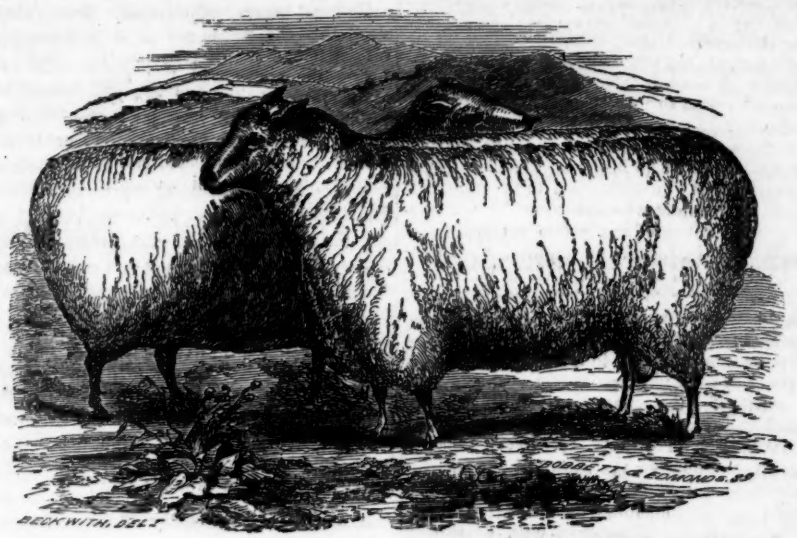
Men and horses, only, sweat. So say the medical men whose business it is to investigate the wonderful living mechanism of both. The ox cools off by accelerated respiration: if heated in the furrow, he partially opens his mouth, drops his tongue, and by rapid respiration, or breathing, throws off the excess of heat which has accumulated in the system. The dog which runs at the side of the carriage through the intense heat of a July sun, dashes into the cold spring with impunity and returns refreshed, having no perspiration to check, "when men or horses submerged in a similar manner would suddenly check perspiration, and if they survived the shock, it would be but to die with acute or chronic inflammation." In violent motion the respiration of both men and horses is increased, but not sufficiently so as to carry off the heat that is generated—they perspire through the skin, the pores of which become opened or enlarged, and it is while in this condition that both are exceedingly liable to be injured, and when great care is necessary to preserve the health of either.

We saw a noble looking animal the other day standing by the road side, wet with perspiration, dotted with white foam, and apparently highly heated. There he stood, unchecked by rein or halter, faithfully waiting his master's return. The cold was intense, the mercury then being below zero! Impatiently he pawed the ice under his feet, champed the bit, and wildly flung his head from side to side, while his lips were contracted and nostrils collapsed, giving him a fierce and unnatural appearance. No blanket covered his wet and heated body, while the keen morning air froze stiff the moist long hairs that stood out from the skin. He was evidently suffering severely. And this is no uncommon sight. So little is still known of the physiology and functions of the horse that men who would refuse an extravagant price for a favorite animal suffer him to stand in the condition which we have described.

If the horse mentioned escaped an attack of colic or violent inflammation in some shape, it was his good fortune, and not from any wisdom or humanity on the part of his owner.

Even in mild weather, though it may be summer, men nor horses should remain quiet in a cold draft when heated and wet with perspiration. Millions of the colds complained of would be prevented by observing this simple rule, and thousands of valuable lives preserved which are now annually extinguished.

But you, who value the noble animal which you control, when you "rein up" for business or pleasure, let the mantle of charity come over your steed in the shape of a good warm blanket. Depend upon it you will find it cheaper than physic, travelling on foot, or drawing your carts yourselves.



LONG WOOLED SHEEP.

The animals, of which the above is a portrait, were exhibited at the late Fair in New York, and are the property of J. McDonald and William Rathbone. The principal recommendations of this breed, "The Leicester," are its fulness and beauty of form; greater weight for their size than other sheep; early maturity; an unequaled propensity to fatten, and the weight of their fleece and length of wool. They have small heads, and very little offal.

The wool business is becoming one of magnitude and importance, and it is an object for the farmer to possess a breed yielding both good fleece and flesh. This plate was procured expressly for the columns of the Farmer, and will be succeeded by engravings of other breeds which are considered among the best.

THE AMERICAN MUCK BOOK.

We expressed our high opinion of this book in the Farmer of Nov. 29; and upon a more thorough examination of its contents, find that opinion fully sustained. Below we give the judgment of one much better qualified to speak of its merits than ourselves. It is a very handsome volume, price $1, and for sale in this city at the bookstore of Messrs. Tappan & Whittemore:—

Boston, Nov. 6th, 1851.

Dear Sir:—I have the pleasure of acknowledging the receipt of a copy of the "American Muck Book," recently published by you, and edited by Mr. D. J. Browne.

From an attentive examination of the pages of this book, I have come to the conclusion that it is one of the best works extant, on the principles of scientific agriculture, and the best compendium of our most recent knowledge of the nature of manures and their adaptation to particular soils and crops. It cannot be expected that a single volume could possibly contain the whole sum of chemical knowledge, applicable to the science of agriculture; but on looking over the closely-printed and compact tables of analyses, and the abundant formulas, which this publication contains, I could not fail to be surprised at the industry manifested in preparing it. I was also gratified to find it so well adapted to the American system of husbandry, and so practical in its character. Its copious and accurate index adds not a little to its value. I shall certainly recommend it to my agricultural friends as a very useful book, and one necessary to every scientific farmer. I am

Respectfully your ob't serv't,

Charles T. Jackson, *State Assayer, &c.*

To C. M. Saxton, Esq., N. Y.

CASTOR OIL FOR LIGHT.

The Jacksonville (Ill.) Journal says, it may not be generally known that castor oil is better for lamps than sperm or lard oil, which is the fact. Some years since, when this oil was cheaper than either of the others, the editors of that paper used it in their parlor lamps, much pleased with the result; it gives a white, clear, beautiful light, and does not clog the wick. It sells in Illinois at one dollar a gallon.

Remarks.—Will some one who has the knowledge inform us whether any particular course of culture is necessary for the castor bean, what its product is per acre, and the best method of obtaining the oil. In the scarcity of the whale, and the high price of some of the lesser lights, we should be glad to know something more of the bean light It is possible that the farmer, through this litt e leguminous plant, may yet shine out transcendent ly bright, beside finding profit in the trade. Le us have the light.

For the New England Farmer.

POTATOES AND THE ROT AGAIN.

BY A. G. COMINGS.

When I wrote my last article on this subject for the Farmer, it was my intention to make that the last which I would furnish upon that subject. But as the editor has taken the liberty to place my name at the head of the article, I find myself standing out before the world in the unenviable position of a new theorist; in opposition to the multitude of respectable writers who have agreed in the opinion that "the cause of the potato rot is ATMOSPHERIC." This is, for me, an unpleasant position; because, firstly, if I am constrained to differ from my friends, I prefer to hold the most modest and retired position with respect to them, until the reasons for my position are fully before them; and secondly, because I am not in a situation to spend that amount of time in investigating such subjects, and in writing for the press, that I could wish to have for that purpose, if I must stand out before the public in such an attitude. However, what is past is past, and now for the work before me.

The editor inquires, firstly, "Did not the potato grow with perfect soundness on coal-pit grounds twenty years ago?" They grew with soundness every where they were planted twenty years ago; but not equally good in flavor; being on some ground like the sound portion of a crop now, where many are diseased. And the farmers said of such, "These potatoes are soggy, and not fit to eat."—Such potatoes were produced then on such grounds as they rot badly on now, if my memory serves me in a right manner.

Second in uiry of the editor, "Does it not grow well now, on new land, where a thick mass of dry grass and roots are turned under, which would be the materials to give out carbonic acid in large quantities?" This question contains with it an affirmation, which is, that, "such materials give out large quantities of carbonic acid." They give out a quantity of the acid, as they are decomposed; but, unaccompanied by any stimulant, such as ashes or things of the kind, only a small quantity, when we compare the amount with that given off from a heavy dressing of manure. There is not much carbon in a thick mat of tender grass, and no very great amount in the roots. Besides this, these vegetable remains are decomposed very gradually, and they lay the ground open very much to "atmospheric" influences, which, in my opinion, are highly beneficial to the healthy growth of the potato. But take such a piece of ground where there is a great supply of vegetable remains, years old and yet undecomposed, there will be found much carbon. Apply any stimulant to produce rapid decomposition, and you may get a large growth and a rotten crop. This is precisely the state of the case with Mr. H., of Pelham, N. H., whose statement is given in No. 46 of the (weekly) Farmer.

Third question—"Does it not grow far better on such land, than on old land, though the old land may have received no manure for years?

In answer to this question, we will say, on the old land there will be less growth, if the vegetable remains are all decomposed and exhausted, or if the soil is in such a state as to exclude atmospheric influences. Nothing will grow without a needed supply of the gases which enter into its composition. The question is not whether carbonic acid, in any quantity, more or less, is injurious to the potato? Not at all. It is well understood that the potato will grow most rapidly in a very rich and active soil, and that in such a soil, during the warm and wet season, a very large quantity of carbonic acid gas is generated. And on all such ground, especially where the soil is not very porous, the great crop is fearfully sickly. The *excess* of carbonic acid, not its presence in any quantity, is that to which we attribute the prevailing disease.

The decomposition of old sward takes place so gradually that very little fermentation is apparent, especially where the ground is not unusually rich and moist. There, a piece of newly cut iron will rust moderately, or, which is the same, it will become *oxidized* but moderately. On highly manured, or very rich old ground, where there is a great abundance of carbonaceous earth, there much fermentation will take place, iron will rapidly coat with oxide, and there look out for potato rot. (The oxidation of iron is more rapid, because of the large quantity of oxygen gas which is combined with carbon to form carbonic acid.)

THEORY OF ATMOSPHERIC INFLUENCES.

Unpleasant as it may be to dispute the correctness of the idea that the potato rot is caused by some poison which floats in the air, we must beg pardon of our friends for taking the liberty to dissent from them, and proceed to the discussion of the subject.

The editor expresses a common idea, and one with which I fully agree, when he says, "We have no doubt that manuring in the hill always has a tendency to induce the rot."

When I shall be convinced that manuring in the hill is an operation performed in the *air*, not in the soil, then it will be easier for me to believe that the cause of potatoes being more commonly blighted under such circumstances is *atmospheric*. Two square rods, side by side, may be planted with the potato. One rod shall be manured in the hill with strong manure, and the other not. There will be a great difference in the chances of a sound crop. But does not the same atmosphere float over both? Whence comes the disease, then? From the air? No. It originates in the soil.

The case of Mr. H., of Pelham, N. H., comes up. Two strips of land, side by side, are planted. Was the difference between them a difference in the atmosphere? Did not precisely the same atmosphere cover them both? Certainly it was, that the difference was in the soil, not in the atmosphere. If the addition of manure to one part, under circumstances calculated to prevent fermentation at the time the potato is most easily affected, was subject to another influence which moderated its decomposition, it would not induce disease.—Those circumstances might be in the action of the plaster, (sulphate of lime,) in the manure lying upon the surface of the ground, or in the dryness of the weather. When I can believe that the difference of condition of the two pieces was an atmospheric difference, I can more easily believe that the cause of the disease was in the atmosphere.

It has become a matter of surprise to me, that almost every man will tell what kinds of soil are most liable to give diseased potatoes, and what kinds of soil are most likely to produce sound ones, and then turn round and tell us that the cause of

disease is in the atmosphere, not in the soil. There appears to me to be something else than sound reasoning in all this.

Every observing man knows that in an uneven field, made up of knolls and hollows, the disease will begin in the hollows before it will upon the knolls, and yet, if the pestilence sweeps over the land in the moving atmosphere, it would be likely to strike the knolls first. Certainly, potatoes growing upon knolls are more subject to atmospheric influences. And certainly, they are less subject to disease.

CARBONIC ACID GAS.

This invisible agent is composed of carbon and oxygen gas. The burning of charcoal in a close room will produce a room full of carbonic acid gas; and no breathing being can live in it. A room newly plastered and kept close until it dries, no man can live in.

Carbonic acid gas is heavier than atmospheric air, and when much of it is generated in the soil, it will flow into the lowest places, while from its weight, it will mingle but little with the atmosphere. In deep pits, old wells, &c., it sometimes collects so as to be destructive to animal life, immediately when it is breathed. It accumulates in badly ventilated cellars, where there are old casks and a damp air, or where the decomposition of vegetable matter is going on.

In such cellars, and on such low spots of ground, highly manured, or in other ways prepared to produce much of it, there the potato is most liable to disease. This is a matter of fact and not mere speculation.

Clean and well ventilated cellars, where no old casks are rotting, are those for health.

In the warm and wet weather, in dog-days, it is sometimes the case that so much carbonic acid is generated in forests and fields, that during a heavy fall of rain, accompanied with some winds, the atmosphere will become charged with this gas to a perceptible degree. One will feel as though he breathed something unusual, and will perspire very rapidly when doing but little labor. A man may go into an old filthy cellar, where carbonic acid has been collected, and he will feel and perspire in the same way, under the same amount of exercise.

When such a state of the weather comes on, in the latter part of summer, it is common to hear the most observing among farmers, saying one to another, "This weather is the right kind to bring on the potato rot;" and so it has been abundantly proved to farmers.

REMEDIES.

Whatever will absorb the gases which serve to produce the evil, or moderate the decomposition of vegetable matter during the particular season of danger, will prove a remedy for the disease.

Lime may be used under such circumstances as only to stimulate the soil, and hasten the decomposition of vegetable matter. In such case, on very rich, or highly manured grounds, it will be dangerous to the potato. Applied in a caustic state about the beginning of the period when the soil and manure is most active, it will absorb the carbonic acid necessary to constitute it to the carbonate of lime. The application to the surface would, perhaps, be as well for this purpose.

Ashes, in the possessed amount of alcaline property, may be so applied as to stimulate the soil, as was remarked of lime, and in such circumstances would be alike injurious. When applied, however, so as to neutralise acids, on moderately active soil, they will be beneficial.

Plaster, (sulphate of lime,) absorbs the nitrogen of saltpetre, (nitrate of potash,) or takes the same gas from the atmosphere, and holds it for the potato, or any other plant that needs it to feed upon. It is, generally, beneficial to the potato crop, and whether there are any circumstances under which it will be injurious, is not certain. It will not, however, prevent the disease, under very unfavorable circumstances, if it is a remedy at all.

Salt, which is a compound, in its *first* action upon soil moderates decomposition, and is beneficial to the potato; but injurious to Indian corn.

Charcoal, serves merely to absorb the rain-water, and hold it until it is taken up by vegetation. It therefore slightly moderates the decomposition of the soil, aiding to equalize its condition during wet and dry weather. It will, when free from other substances and agents, serve some good purpose in most soils.

Carbonic acid is not properly a part of the atmosphere, but at certain seasons of the year is generated in so large quantities as to become mixed with the gases of the atmosphere to an extent which produces great effects, and the breathing of men and animals throws out enough to make sensible men dread the effects of confinement, for sleep or any thing else, in small tight rooms.

We beg pardon for intruding so long upon the reader's attention, and perhaps the length of this article will deter some from reading it.

Being an interested student in the school of agriculture, it has been my desire to bring out from others as much light as possible, and, therefore have touched many points. C.

Mason, N. H., Nov. 18, 1851.

REMARKS.—The above is an exceedingly valuable article, and worthy the careful consideration of every reader—farmer or not. We think we fully understand the writer when he says that "the *excess* of carbonic acid, not its presence in any quantity, is that to which we attribute the prevailing disease." And this is a point to which we call especial attention, as there is danger of rejecting charcoal as a fectilizer, in the fear that it may be injurious to the potato crop. It is not the charcoal, but the large amount of carbonic acid produced in its rapid decomposition by burning, that is injurious.

For the New England Farmer

EFFECT OF SALT WATER UPON TREES AND SHRUBS.

BY S. P. FOWLER.

I thought it would be interesting to publish in the Farmer some facts in regard to the effects of salt water upon trees, shrubs and plants, caused by the flowing of the tide over a portion of my garden, in the great storm of April 16th, 1851. Such opportunities for noticing the inundations of the sea seldom occur. The garden was overflowed by the water about three hours, and the roots were laid bare by the motion of the waves, so that it became necessary to cover them with earth. Two Isabella and two fox grape vines

were killed, and those that survived, put forth their leaves late in the season. The apple and pear trees did not appear, the following summer, to be much injured, although the putting forth of their leaves, was somewhat retarded in the spring. The plum trees were apparently benefited by the salt water. Several kinds of currant bushes were badly washed by the water; one of them, the Missouri large fruited, had put forth its leaves, but they did not appear to suffer. A number of native shrubs and plants were submerged, but two only were destroyed, the Staphylea, and Viburnum lantana. A fine Kolreuteria, a Chinese tree, was not injured. The Strawberry plants did not suffer, but a bed of Spearmint, that by its spreading had become troublesome, was destroyed, whereas a bed of Peppermint escaped. The Crown Imperials and Narcisuses were six inches in height, when overtaken by the water. They never grew after this period, and exhibited weak flowers. All the weeds and grasses sustained no injury whatever. The Apple trees, washed by the tide, did not suffer so much from the canker worm as those not reached by the water. I could see no effect of the salt water upon the curculios. The earth worms were all destroyed, leaving their holes in the ground, as they were reached by the tide, and were driven by the waves to high water mark, where they laid dead in great numbers. The sea overflowed a garden in England, in November, 1824, and remained upon it for 24 hours. The result was, the improvement of the asparagus beds, and the cherry trees, in the following year, produced a numerous crop of cherries, which tasted, however, so very salt, they could not be eaten, although very fine in appearance. These trees all died the following year. An inundation of the sea occurred in Europe in 1825, when the oak, the mulberry, pear and some other trees did not suffer, neither did the asparagus, onions, celery, &c., for they were never finer, or more luxuriant. But the vines and gooseberries contracted a salt taste, and the apples, cherries, elms, poplars, willows, &c., pushed out a few leaves and soon died. S. P. F.

Danvers, New Mills, Nov. 28th, 1851.

THE FARMER.

It does one's heart real good to see a merry, round faced farmer. So independent and yet so free from vanity and pride. So rich, and yet so industrious—so patient and persevering in his calling and yet so kind, sociable and obliging. There are a thousand noble traits about his character. He is generally hospitable—eat and drink with him, and he won't set a mark on you, and sweat it out of you with double compound interest, as some people I know will—you are welcome. He will do you a kindness without expecting a return by way of compensation—it is not so with every body. He is usually more honest and sincere, less disposed to deal in underhand cunning than many I could name. He gives society its best support; its firmest pillars that support the edifice of government; is the lord of nature. Look at him in his homespun and grey, laugh at him if you will. but believe me, he can laugh back again if he pleases.

☞ Those who speak without reflection often remember their own words afterwards with sorrow.

PRESERVE THE MUNICIPALITIES.

The permanency and stability of our Union depends, in a great measure, upon the independence and purity of our municipalities—our town and city governments. When these are corrupted, and become matters of "bargain and sale" by unprincipled men, seeking to elevate themselves by trampling upon the rights of the people, then, and not until then, shall we despair of the perpetuity of this glorious Union.

Their safety and purity are mainly in the hands of the rural population. It is to them that we are to look as the guardians of the public peace. While the ambitious in crowded cities, regardless of principle and good order, are swaying to and fro in angry surges for posts of honor or profit, the occupants of the rural districts will sit in calm judgment upon their actions, and hold a conservative power which will carry us safely through the storms of passion which must occasionally agitate our peaceful atmosphere. Princes and potentates shall rise and fall—despots and tyrants shall condemn, banish and execute their subjects, while whole nations shall be subjugated, lose their dearest rights, and labor in the unyielding chains of arbitrary rule, helpless and doomed to perpetual toil. But here shall our thousands of little Republics flourish. They are our bulwarks of safety. The tongue that would tamper with them should be palsied, and the hand withered that should aim the first blow at their foundations.

"Princes and lords may flourish and may fade;
A breath can make them, as a breath has made;
But a bold *yeomanry*, their country's pride,
When once destroyed, can never be supplied."

Fixed in the principles of the Pilgrim Fathers—constantly preserving at all hazard the inherent, natural rights with which we are endowed—bowing neither the head or knee to any but Him "who made us upright," let us watch with unceasing care, these little republics, these *Hearts* of the Union, our town governments, or municipalities. Keep *them* pure, suffer no prejudice to pervert them from the principles of justice and truth,—let them rest so easily upon each citizen that he shall scarcely be cognizant of their existence, and they will prove an effectual remedy for all internal dissension, and a better shield against all foreign aggression, than a Gibralter of fortresses extending the whole length of our Atlantic coast.

We have been led into these thoughts from reading one of Kossuth's speeches—that wonderful man—raised up, as it seems clearly to us, to strike a blow at the despotisms of Europe which shall make them tremble from centre to circumference,—and may God help the right.

Austria attempted to interfere with the internal regulations of the Hungarian people, that is, what would be equivalent to an interference with our town and city regulations. The Hungarians resisted, knowing that if this outpost was surren-

dered, the citadel would be lost. It was in the glorious struggle to maintain these that they nobly fell. But

"Truth crushed to earth will rise again,
The eternal years of God are hers."

In explaining the cause of the struggle in one of his speeches, Kossuth said,—"For three centuries Austria has exercised open violence and wholesale threats to destroy the liberties of my countrymen, and were it not for her municipal institutions, would have succeeded. There was a time when the principles of liberty were spreading through Europe, and when I was myself almost alone standing against the assailants of Russia. Municipal institutions are the best protectors of liberty. There is the French nation, which has, after three revolutions, glory outside, but freedom within withering by the influence of centralization."

He then proceeded to observe that he foretold this would be fatal to them. England would always be great, glorious and free, by the preservation of her municipal institutions; and when he saw their race was the only one in both hemispheres enjoying perfect freedom, whether in kingly formed governments in the one, or in republican institutions in the other, he still saw it was by preserving these institutions intact.

For the New England Farmer.

MEADOW HAY AND CRANBERRIES.

BY SILAS BROWN.

Messrs. Editors:—Although meadow hay and cranberries bear no resemblance to each other, their affinity is such that they thrive in the same kind of soil and mingle together in society, and almost necessarily belong to the same subject for discussion. Experience is the best instructor; I have had as good an opportunity to discover the virtues of meadow hay as any man in the State. For more than 30 years I have had bountiful crops of it, some seasons more than I have been grateful for, ingratitude being my sin in this case.

I have flat meadow land inundated from fall to spring by a mill-pond. The wild grass and cranberry vines alternately occupy the whole lot with contending bushes which are steadily encroaching upon their territory unless care is taken to exterminate them. Where the cranberry vines grow, very little grass grows, but when they have gone through a course of bearing fruit they gradually decay, and finally rot and disappear, then the wild grass takes possession and has its turn and supplies us with meadow hay.

Cranberries do not produce well among grass, the berries are of small size and seldom ripen before harvest time; those are best which grow on beds that occupy the whole ground to the exclusion of grass; the berry grows larger and ripens better, not being shaded by grass and bushes and having the benefit of the sun. The seasons for several years past have been unfavorable to the growth of cranberries; the cold has continued later than formerly through the spring and into June, and the springs have been backward mostly for ten or more years. The late frosts in May, June and sometimes in July, have had a blighting effect on the vines which for several years have lost their green thrifty appearance and look stinted and dingy. The cranberry vine, after the starting of the blossom shoots, is extremely sensitive, and meadow-land being more subject to frosts than upland, the vine is frequently injured when there is no appearance of frost on the upland. Meadow grass is much more liable to be injured by frosts than any of our varieties of English grass. I have frequently seen the crop nearly ruined by June frosts. Meadow grass makes much better hay cut early than late; the late cut hay is destitute of that flavor which is so agreeable to the smell, and cattle will only eat it as a "life preserver," as the famishing sailor eats his leather mittens. Meadow grass ought to be cut in July to be relished by the cattle; the little nutriment which it contains is soon dissipated to the winds if left standing later.

Cattle do not like to be confined to one kind of food any more than we do, and will eagerly eat it for a change if not repeated too often; they will winter very well upon it with a daily allowance of the different kinds of roots. I have found my young cattle, and oxen, when they do not labor hard, winter much better upon it than cows, and ought to consume a full share of the meadow hay; but cows must have good hay and other good food, and their flesh kept on their ribs during the winter, or it will be a summer's work for the poor brutes to restore it, beside a serious deficiency to the income of the owner by a diminished quantity of milk. I have seen the cows of some respectable farmers, in the spring of the year, which had been fed during the winter on meadow hay, and perhaps a scanty allowance at that, come out hidebound in such a manner as to require the three summer months, in good pasture, to gain nourishment enough to loosen their skins from their ribs.

I have kept six or eight cows summer and winter for a number of years, and fed them in the winter on meadow hay, the refuse of corn, and sparingly on English hay; they would go dry three or four months, and come out in the spring, spry, but not burdened with flesh; their calves would be light at five weeks old, and fetch me 3 or 4 dollars each, and it would take all the best part of the grazing season for them to regain a "respectable appearance in the world," and be in a condition to give a decent quantity of milk. I have kept two cows, fed them with a supply of good hay, corn-fodder, pumpkins, the various kinds of roots, and a dose of swill occasionally, and they supplied us with milk every day through the year, and produced two calves worth 12 or 15 dollars at five weeks old, and wore a good loose hide, all the while unannoyed by blood-thirsty vermin. Those two cows while nursing their calves furnished us with milk and butter sufficient for a small family. Here we see the difference between feeding cows on nutritious articles of food and dry indifferent fodder. There is an advantage in having a constant supply of meadow hay in the barn as we have occasion for its use when our crops of English hay are cut off by drought.

We have reports at intervals of a few years, of short crops, famine and starvation among cattle in those places where farmers are dependent upon upland or English hay to winter their stock of animals; but in the regions of meadow hay in the county of Middlesex and elsewhere, it is very seldom we hear of farmers sustaining such losses ex-

cept through negligence in feeding. Firstly, the advantages of meadow hay are experienced in seasons of drought and scarcity of better fodder. Secondly, in requiring no labor to cultivate the crop. Thirdly, no expense for seed to perpetuate the crop. Fourthly, and no draught upon the compost heap to enrich the soil. Meadow-hay will preserve the lives of cattle through cold and dreary winters, as many of our experienced farmers can testify, but he that feeds his cows with it for main support must be contented with blue milk and a scanty supply at that.

The price averages here from 5 to 7 or 8 dollars a ton, or about the price of rye straw.

Wilmington, Dec. 1, 1851. S. B.

HYDROPHOBIA.

A case of death from the bite of a mad dog at Banbridge, in Ireland, an account of which appears in a Dublin journal, induces us to publish the following from the last New York *Sun*. Of course we cannot tell whether the proposed cure would be efficacious or not, but the *possibility* of its being so, in such a dreadful emergency, is a sufficient reason for making it known.

Cure for Hydrophobia.—Mr. James A. Hubbard, of Boone county, Illinois, in a letter to the St. Louis *Republican*, says:

"Eighteen years ago, my brother and myself were bitten by a mad dog. A sheep was also bitten at the same time. Among the many cures offered for the little boys, (we were then ten or twelve years old,) a friend suggested the following, which he said would cure the bite of a rattlesnake:

"Take the root of common upland ash, commonly called black ash; peal off the bark, and boil it to a strong decoction, of this drink freely. Whilst my father was preparing the above, the sheep spoken of began to be afflicted with hydrophobia. When it had become so fatigued from its distracted state as to be no longer able to stand, my father drenched it with a pint of the ash root ooze, hoping to ascertain whether he could depend upon it as a cure for his sons. Four hours after the drench had been given, to the astonishment of all, the animal got up and went quietly with the flock to graze. My brother and myself continued to take the medicine for eight or ten days—one gill three times a day. No effects of the dreadful poison were ever discovered on either of us. It has been used very successfully in snake bites to my knowledge."

TO PROMOTE THE HEALTH OF CATTLE.

Mix, occasionally, one part of salt with four, five or six parts of wood ashes, and give the mixture to different kinds of stock, summer and winter. It promotes their appetites, and tends to keep them in a healthy condition. It is said to be good against bots in horses, murrain in cattle, and rot in sheep.

Horse-radish root is valuable for cattle. It creates an appetite, and is good for various diseases. Some give it to any animal that is unwell. It is good for oxen troubled with the heat. If animals will not eat it voluntarily, cut it up fine and mix it with potatoes or meal.

Feed all animals regularly. They not only look for their food at the usual time, but the stomach indicates the want at the stated period. Therefore feed morning, noon, and evening, as near the same time as possible.

Guard against the wide and injurious extremes of satiating with excess and starving with want. Food should be of a suitable quality, and proportioned to the growth and fattening of animals to their production in young and milk, and to their labor or exercise. Animals that labor need far more food, and that which is far more nutritious, than those that are idle.

Guard all descriptions of stock against cold and exposure, especially against cold storms of rain, sleet, and damp snow, and against lying out on the cold ground in cold nights, in the spring and fall.

In dry time, see that animals have a good supply of pure water. When the fountains are low, they drink the drainings of fountains, streams, and passages of water, which are unwholesome.

If barns and stables are very tight and warm, ventilate in mild weather, even in winter.

In feeding animals on apples or roots, begin with a small quantity and gradually increase it. It would be better to have all changes made gradually.—*American Vet.*

PICKLING MEAT.

Prof. Refinsque denounces the use of saltpetre in brine intended for the preservation of flesh to be kept for food. That part of the saltpetre which is absorbed by the meat, he says, is nitric acid or aquafortis, a deadly poison. • Animal flesh, previous to the addition of pickle, consists of gelatinous and fibrous substances, the former only possessing a nutritious virtue; the gelatine is destroyed by the chemical action of saltpetre, and, as the professor remarks, the meat becomes as different a substance from what it should be, as leather is from the raw hide before it is subjected to the process of tanning.

He ascribes to the pernicious effects of the chemical change all the diseases which are common to mariners and others who subsist principally upon salted meat—such as scurvy, sore gums, decayed teeth, ulcers, &c.—and advises a total abandonment of the use of saltpetre in the making of pickle for beef, pork, &c., the best substitute for which is, he says, sugar, a small quantity rendering the meat sweeter, more wholesome, and equally as durable.

Remarks.—We fully agree with Prof. R. in denouncing the use of saltpetre in preserving our meats. Such poisons, and especially when they so nearly resemble common salt, or Glauber's salts, should never be brought into the midst of the family. The most fatal consequences have often resulted from it. Beside, the use of it does no good, and *may do* a great deal of harm.

Some persons have a practice of administering saltpetre to their cows once or twice a week, in order to *keep off disease*, or in their language to keep them healthy. This should be strongly reprehended. It is soon enough to dose either animals or humans when there are symptoms of sickness. The practice is undoubtedly a fruitful source of disease, as each dose of saltpetre contains nitric acid or aquafortis, which is a deadly poison.

For the New England Farmer.

A TALK ABOUT SHADE-TREES.

BY JOSEPH G. HOYT.

The propriety and pleasure of cultivating ornamental trees both in private and in public, in winter as well as summer, you and I, Mr. Editor, have taken for granted so long that it seems to us, reclining "*sub tegmine fagi*," almost an insult to common sense to urge anything further on the subject. For myself I am a born Druid, and always look upon a tree with a feeling of old Celtic reverence. There is something in its graceful form, its living beauty, its overshadowing protection, its answering voice to every questioning wind, which seems to endow it, not only with the physical attributes, but with the intelligence of an exalted humanity. Whatever other skepticism I may have been guilty of, I never entertained an "unbelieving doubt," that Shakspeare found "tongues in trees," or that the priestesses of Epirus did receive from the sacred oak in Dodona the very prophecies which they proclaimed to the people. But if in these latter days of "noise and confusion," of clattering engines and "spiritual knockings," we cannot hear the small voice, nor understand the dialect of the "speaking oak," yet at least, to one who has eyes to see, the tree, whether bending under the green luxuriance of summer, or decked in the crimson glory of autumn, or defying in its naked strength the wintry tempest, is one of the most beautiful and majestic objects of nature. To praise it, as well as

> "To throw a perfume on the violet,
> Is wasteful and ridiculous excess."

In listening, therefore, to any eulogy upon the oak, or elm, or rock-maple, the initiated few feel very much as the old Greek poet, when with a sort of indignant impatience he said to the encomiast of Hercules—"who ever censured him?" Such undoubtedly is the feeling of you, metropolitan scribblers, who, with a true Eastern devotion, worship three times a day every green thing, from "the cedar-tree even unto the hyssop that springeth out of the wall."

But notwithstanding all this, there are unfortunately vandals yet in the outer world, or what is worse, willing slaves of mammon—men, who graduate everything on the scale of dollars and cents; men, who see no value in anything unless it may be converted into ready money or rail-road stock; men, on whose land a tree stands or falls according to the probable amount of moisture and manure which it takes from the soil, or the extent of shade which it flings over a potato patch. Show one of these bovine worshippers of the golden calf a maple, or a beech with its beautiful foliage,—and he will tell you that hard wood, if well cured, will fetch on the wharf $7,50 per cord. Call his attention to a splendid landscape,—and he estimates its beauty and sublimity by its price per acre in the market. Bid him look at the majestic cataract,—and he sees not the rainbow which bends over it; for his eye is parcelling out the wild flood into streams of proper size for factories and grist-mills,—he hears not the awful anthem which it sings; for his ear is listening to the music of saws and wheels yet to be. Such men there are in the world, "'tis true; 'tis true, 'tis pity; and pity 'tis, 'tis true." One such, by the way, I unhappily know, not a thousand miles from this village—a man "of whom the world is not worthy;" nor, indeed, do I now think of any place that is worthy of him. Pollok tells us that the slave of money, the gloating miser, with the power of an old habit fastened on him, would be a dangerous man in *heaven*—dangerous lest he strip the gold from the golden streets and the pearls from the jeweled gates. If this be true in any sense, as undoubtedly it is, how could he be considered a safe man *there*, who, in the light of open day, in sight of church-steeples and school-houses, would hew down a colonnade of nearly a hundred stately elms, the growth of half a century, the pride of the street, the admiration of every passer-by, because, forsooth, "they sapped the ground" and would not bear cider apples? The most beautiful and attractive word ever employed in Holy Writ, as descriptive of heaven, is the word *paradise*—a garden full of trees. What would such a man, as the one to whom I have referred, do among those upper trees? Give him the power, and, with his nature unchanged, his identity of character preserved, he would cut them down into market length and smuggle them across the "fixed gulf," of which we read, to be sold for fuel on the other side!

I have no patience with such men or with the miserable philosophy which they act out in their daily life. We were made to be lovers of beauty as well as of money—with eyes as well as appetites—with souls as well as stomachs. Why does the brook run *winding* through the meadow, when it might have reached the ocean by a shorter, and therefore more *practical* and *economical* course? Why is the bird painted with parti-colored plumage, when it could have lived and died a dingy white? Why is its voice imbued with a melody sweet as the morning music of Memnon, when it might, like the earth-worm, have discharged all the functions of its social nature without a sound? "To what purpose is all this waste?"

But trees on a street before a house or house-lot are not without their advantages in a *pecuniary* point of view. They increase the merchantable value of real estate. There is, for instance, in this town, an estate, known as the "Judge Smith place," now owned by one of our best farmers, J. L. Cilley, Esq., which, surrounded as it is with magnificent trees, would, if it were for sale, bring to-day, in any civilized community, $3000 more than it would if no shade-trees waved over it. Not only so, but it lends a charm to the whole neighborhood around. Every tree planted and raised is an investment, "*in perpetuum*," in an annuity office for the benefit of every citizen in the community and his descendants. The more beautiful a village is rendered, the more attractive it will be as a place of residence and the more valuable will property become in it.

But, besides this pecuniary consideration, trees give property a value which cannot be reckoned in dollars and cents. They gather around themselves a thousand associations—associations connected with all that is pleasant in our recollections of childhood and innocence and parental love. We respond from our "heart of hearts" to the song of "Woodman spare that tree." We would no sooner touch a single bough of the tree which sheltered our youth, than we would mutilate the face of a sleeping child, or disfigure the portrait of a friend in heaven. It is sacred to memory, and, though it may have been an unshapely pine, yet the old homestead would be a desert spot without it. Ev

ery sapling, which we plant on the naked street before our dwellings, makes, with every expanding leaf and spreading limb, home pleasanter and our attachments to it stronger. The saddest thing in the sad lament of Eve, when driven by the angel from Eden, was her apostrophe to the trees and flowers which she had reared "from the first opening bud"—trees and flowers,

"That never would in other climate grow."

If in New England the child is always to feel, that, under the influence of a "manifest destiny," he must leave the home of his father, we can at least so surround this home with beauty, that he shall go away more and more reluctantly, and his heart, in whatever distant land it beats, shall, like the sea-shell far from its native ocean, retain some faint whispers of its early dwelling-place.

Trees, whether planted in our yards, or on the streets, or in our school grounds, or in our public squares, always and everywhere exert a powerful moral influence. That natural scenery possesses a power over human hearts and human life, every attentive observer of men and things must have seen. The quiet and phlegmatic Dutchman is a natural product of the level, monotonous Netherlands. The Switzer, with his bold, adventurous, unconquerable spirit, is, in his character, a legible transcript—a daguerreotype of the peaks and glaciers and rugged beauty of the Alps. We may not be able to tell how this influence is exerted, but the fact we know and feel in our daily life and experience. How often does it happen, that a falling leaf, a faded flower, or a blooming landscape, has changed the whole current of our thoughts and our being! There has ever been more of divinity and divine instruction in the still small voices of nature, than in all the noisy harangues of the forum or wisdom of the schools. The hardened and the vicious may turn away their ear from the teachings of the fireside and from the voice of the pulpit, but they cannot thus easily escape from the preaching of nature. Some strain of music from this over-arching cathedral, or some breath of incense from its thousand altars of worship, will reach them in their wanderings.

It is a law of our intellectual and moral being, that we grow into the likeness and character of the objects of our constant contemplation. We are, however, never susceptible of external influences, our imaginations are never so vivid, our habits of communing with nature in all her exhibitions of beauty or deformity are never so active as in the period of childhood and youth. Not a thing, animate or inanimate, is presented to the eye of the young, but enstamps itself upon their minds and hearts. Their every thought takes its hue and coloring from the objects which surround them. It is of some importance, therefore, in a moral point of view, that our school grounds should be something besides naked, glaring sand-banks, diversified, if diversified at all, with shapes of ugliness. If, as somebody somewhere says, (I do not remember who nor where) a man's progress in holiness of heart and life depends somewhat on the *binding* of the Bible and prayer-book from which he reads, how important is it that the leaves of the great volume of Nature, which our children read, not morning and evening, but always, should be pure on every page—that no blurred or blotted text should hide the meaning of the author—that no gross or hideous picture should defile the imagination of the reader! We are material beings, and live in a material world, which is certain to affect us for good or ill, whether we will or not. The author of "*Yeast*" says no truer thing than this: "the spiritual cannot be intended to be perfected by ignoring or crushing the physical, unless God is a deceiver and his universe a self-contradiction." The moral which this truth teaches is nothing more nor less than this: when we have beautified our own dwellings with trees, we should remember the school-house, and not "lay down the shovel and the hoe" until we have made the play-grounds for our children there, such, in themselves and in all their associations, as shall inevitably tend to elevate and purify and ennoble human character.

It so happened, Mr. Editor, some two years ago, that, through the exertions of Henry F. French, Amos Tuck, J. S. Wells, C. J. Gilman, and a few other gentlemen, a public meeting was held in this town to discuss the importance of overshadowing our village with forest trees, on which occasion your humble servant, as well as others, made a speech. The result of our united efforts was the transplanting of about 2000 trees. In looking over some loose papers to-day, I fell upon the exceedingly meagre notes of that notable performance of mine. At the suggestion of a friend I have attempted to clothe these dry bones with flesh and to make them live in your embalming journal, not as the full-grown speech that was, but as the somewhat gaunt essay that is. J. G. Hoyt.

Exeter, Nov. 28, 1851.

SYSTEM---ORDER---REGULARITY.

The importance of attending to these points must be apparent to every one who has had any experience in managing a household, and who has the important and indispensable talent of observing. Supposing, then, my young friends to be early risers, your attention should be next directed towards having a system and regular time for everything you do. "There's a time to work, a time to sing, and a time to play," &c. According to your desires, necessities, or tastes, have your moments or hours set apart, and when once fixed, adhere to them, and make every other thing about the house adapt themselves accordingly. In this way you will soon have united and harmonious action, and everything go on like "clock work." You know always where to find yourself, and every one will know where to find you, and place their dependence and make their calculations accordingly. This is supposed that you are at the head of the establishment, for there must always be a head to a body. But, if you are not at the head, you can regulate according to that head, and, if there is a system about it, you are as much the governor of your time, as if you were the main regulator. If there is not system about it, I pity you from my heart; you are a slave indeed, and must have the patience of Job and the meekness of a lamb, if your temper is not ruffled. From all the scourges and distempers incident to the ills of human life, God save me from factions and disturbances of an irregular household. Behold the beautiful, grand and incomprehensible system of all nature, the sublime regularity of the heavenly universe; watch the harmony of system, and the beauty and regularity displayed by the Divine Regulator, and who will deny that we have not there an unmistakable example for us to follow?

For the New England Farmer.

THE PLUM TREE—FROSTS.

Mr. Brown:—Will you please clear up a difficulty for me?

In the "American Fruit Book," it is said, "The plum is usually most productive in hollows, and low, rich, moist soils, not being liable to kill in the bud, like the peach and apricot." Is it to be understood, that it is not liable to injury in the blossom from Spring frosts? (*a.*) I have searched many authors, but have arrived at no satisfactory conclusions on this point. My soil is low and frosty, where the peach succeeds very indifferently, and the apple is sometimes destroyed by frosts. If the plum is free from this drawback, I could enter upon its cultivation with great delight (*b.*) This tree I believe generally blossoms earlier than the apple and pear, which makes me distrust its hardiness. So little fruit is produced on the plum in this vicinity, it is impossible to tell whether frosts or curculios do the mischief in low situations. Jarring, I think effectual against the curculios; (*c.*) other remedies I have not seen tried.

Sterling, Ct. G.

Remarks.—(*a.*) The plum is more hardy than the peach, and of course, not so liable to be injured by the extremes of weather. It loves a deep, rich, and somewhat moist soil, while the peach, as a general thing, is productive on high ground, with a soil inclining to sand or gravel. In the town of Lincoln, in this State, where the peach crop is certain, and some of the finest are produced which come to this market, the soil is light, and sandy or gravelly, and they are usually cultivated on the hills. But if the soil of these hills were a deep rich sandy loam, there can be no doubt the crops produced would be more abundant, and perhaps of better flavor.

(*b.*) The plum will undoubtedly succeed better on the soil you describe, than the peach, so far as cold and frost are concerned. If you can avoid the curculio and black wart, we have no doubt you may cultivate the plum to advantage in the location you describe.

Much misapprehension prevails, we think, upon this question of injury to fruit trees, buds and blossoms, by frost. And this seems the more evident from the different views entertained in different locations. In this vicinity it is very generally believed if the mercury falls below 13° or 14° below zero, it is fatal to the peach. This may be correct—it would require a series of the most careful observations to set it down as a fixed fact. There are few persons so much interested in the subject as to give it the necessary time and attention at a season when the mercury is several degrees below zero.

It seems to us, however, that the difficulty arises, not so much from the intensity of the cold, as from the sudden extremes which take place, either in the fall or spring, when the ground is not frozen. These changes are sometimes very great—being some 30° or 40° in the course of twenty-four hours. Genial suns and showers have set the sap in motion, the buds or blossoms are swollen and tender, having partially thrown off their winter dress, when the wind suddenly hauls into the northwest and rushes upon them with cutting sharpness in this unprotected state perhaps for one or two days. They become chilled, perhaps frozen, and the little black spot at their centre which may be found upon examination, is sufficient indication that their vitality is gone.

After the earth has taken a three or four months' repose, she wakes from her refreshing nap, and like a strong man who stands in the field ready for his labor as soon as the light from the east scatters the shades from his paths, is ready to give new life and growth to the numberless plants which are waiting for her recuperative power. The sun's warm rays are received into her bosom, and vegetation begins its new existence. Grape-vines in a warm exposure will throw out tender shoots, and while thus courting the early warmth, will be overtaken by one of the sudden and extreme changes which we have mentioned above, be frozen, perhaps, or so chilled as to make a healthy recovery impossible.

These extremes being certain—for we believe they occur every year—it becomes us to seek some remedy against the injury they do us. In planting fruit-trees, this may be done in a considerable degree, by giving them a high, northern exposure. There, the heat would not affect them so much, and the extreme would not be so great. Vines and plants may be protected by matting hay or straw, as a very slight covering will in most cases preserve them.

(*c.*) Last season we raised a perfect crop of apricots. The curculio commenced puncturing them, but dry lime was sifted over the fruit and trees, and they ceased their mischief. The lime was applied several times; beside this a brood of chickens were fed under the trees. The curculio, however, was not so troublesome any where about here last year, as usual, so that what we have considered a remedy may fail hereafter.

ERRORS IN COMPOSTING FARM MANURES.

The farmer's manure heap is usually the receptacle for every substance that has served its original purpose; but it is a mistaken idea that everything thrown in there will serve a useful purpose. We may, however, just say here that this error has considerably influenced farm practice. Belief in the alchymy, rather than the chemistry of the farm-yard, has led some persons to cart soil into the manure yard, and to carry it back again with the dung to the very field from which it was taken; adding materially to the bulk and expense of the manuring. They presumed that they added to its value, but the effect of the earth upon the farm-yard manure would be merely to retard decompo-

sition, and thus might be a loss or a gain, according to the circumstances of the soil and the crop.

Animal substance, offal, and fish of every description, are also very unprofitably applied to farmyard manure. The natural tendency of animal substances to enter into putrefactive fermentation is well known to be greater than that of vegetable substances. By placing them in the manure heap, we, in a farther degree, facilitate the quality in which they naturally excel, and the tendency of which is to rob them of their most valuable element, nitrogen. Judicious practice should avoid this error, by adopting, if possible, a system having an opposite effect.

Lime is one of the substances which it is also an error to use with composts in which we have farmyard manure. It is equally an error to mix lime with any compound rich in ammonia. The tendency of lime, in all composts, is to promote decomposition and to waste nitrogen, which escapes by union with hydrogen, under the form of ammonia, which is the very treasure of the dung heap, and of most other manuring substances.—*Morton's Practical Agriculture.*

AGRICULTURAL BUREAU.

The President, in his annual message to Congress, strongly recommends the establishment of an Agricultural Bureau at Washington. The Secretary of the Interior joins in this recommendation, and thus enumerates the objects to be served by such a bureau, in his annual report. The proposed measure is one of great importance to the entire agricultural interest of the United States, and we hope it will receive that attention from Congress which it merits:

"The establishment of an Agricultural Bureau is again urged upon the attention of Congress. Agriculture is the great interest of our country, more than four-fifths of our population being engaged in it, and yet it is without a Bureau devoted to its interest, although recommended since the days of Washington.

"The best mode of illustrating the utility of an Agricultural Bureau is to present a condensed statement of the duties which it should be required to perform. It should be charged with the duty of collecting and disseminating information in regard to the cultivation of the soil, in all its branches. It should investigate every proposed improvement in the tillage of the earth, or in the construction of implements of husbandry. It should collect from our own and foreign countries every variety of seed, fruit, plant, and vegetable, and distribute them, with full and accurate information as to the soil, climate, and mode of cultivation best adapted to each.

"Through the agency of our national ships and merchant vessels, arrangements could be made for the importation of all the valuable vegetable productions and animals of other countries. This would enable us to appropriate to ourselves the results of the wisdom, experience and improvements of all the world in regard to agriculture, and we should soon be rendered independent of other countries for many articles which are now imported at great cost. One or more officers should be connected with it, thoroughly acquainted with the principles of geology, mineralogy, chemistry and botany, for the purpose of investigating and reporting upon the character and properties of every variety of soil, rock, mineral and vegetable, and their adaptation to useful purposes.

"To this bureau should also be entrusted the duty of superintending the taking of each decennial census, and of procuring and classifying from year to year all the statistical information which can be obtained in respect to the agriculture, manufactures, commerce, tunnage, revenue expenditures, financial and banking systems, improvements by railways, canals and roads, industrial pursuits, and general progress of every State in the Union, and of the principal nations of the world. By this means a vast fund of useful knowledge, which cannot now be obtained, would be always accessible to Congress and the Executive.

"In this department of knowledge our government is behind England, France, Belgium, Prussia, Austria, Russia, Sweden, Spain, and other countries in Europe."

PERIOD OF GESTATION OF DOMESTIC ANIMALS.

It is often important for farmers to know the exact length of time that the different domestic animals go with their young. The following table contains the times of those which most concern him, as near as we can ascertain them:

Mare,	11 months.
Jennet,	11 "
Cow,	8 "
Goat,	4½ "
Ewe,	5 "
Sow,	4 "
Bitch,	2 "
Cat,	8 weeks.
Rabbit,	4½ "
Rat,	5½ "
Mouse,	4½ "
Guinea Pig,	3 "

Period of incubation of domestic fowls:

Swan,	6 weeks.
Turkey,	4 "
Goose,	4 "
Duck,	4 "
Pea Hen,	4 "
Guinea Hen,	3 "
Common Hen,	3 "
Pigeon,	2 "

Granite Farmer.

A Wonderful Raspberry Bush.—We noticed in September last, the reception of some raspberries, from the second crop on the same bush, raised by Mr. P. B. Phillips, of Cranston. He then stated that the third crop was growing on the bush. On Saturday last, he brought to our office some of the berries which he assures us are from the *fourth set of blossoms during the present year!* The berries are not quite so large and rich flavored as those of the second crop, but they are about the average size, and ripe. He says the bush stands in the open garden, but he has taken considerable pains to keep it well cultivated, and the ground loose around it. It was taken wild from the woods, one year ago this month. Some parts of the bush have grown nine feet during the past season.—*Prov. Mirror, Nov. 10th.*

For the New England Farmer.

INSECTS—ORCHARDS—HENS.

BY WM. D. BROWN.

Mr. Brown:—I have just read over again Downing's article in the July Horticulturist, "A few words on Fruit Culture."

He says, "The multiplication of insects seems more rapid, if possible, than that of gardens or orchards in this country. Everywhere the culture of fruit appears the easiest possible matter, and so it would be, were it not for some insect pest that stands ready to destroy." This is true; and it is the greatest drawback the fruit culturist has to encounter.

I heard Professor Agassiz deliver a lecture upon injurious insects, a few weeks since. He says that there is a great deficiency of accurate knowledge yet on the subject. He urged that the pupils in our common schools might be profitably instructed concerning injurious insects. He would have specimens for the teachers to exhibit and describe.

I am no advocate for any further addition to the numerous studies already pursued in our schools, but this suggestion of Professor Agassiz seemed eminently practical. A little attention on the part of the teacher would enable him to point out occasionally to his elder pupils much that would aid them in checking the ravages of these enemies. He might train their eyes to look over a young orchard after the fall of the leaf, or before the buds opened in spring, to detect the glazed clusters of caterpillars, all ready to swell up into devouring colonies. He should tell them that every "nest" which appeared afterwards, should be demolished early in the season and early in the day. I would have him almost eloquent upon the folly—yes, worse than that—upon the criminality of allowing those nests to mature.

I recollect well the pleasure with which I looked upon a long row of apple trees in a neighboring town, some years ago. A few years after, I saw those trees again. Some were almost white with caterpillar's nests, and barren enough of leaves for pigeon stands. The owner, it seemed, had abandoned them to the worms. I thought before I would do so, I would serve them as you know the Dutchman did his grain-stacks, to rid them of the pesky rats—set them on fire!

I was in a store in this town, once, when a worthy citizen entered and said, "What's Mr. ——'s first name?"

"My good sir," said the clerk, "can't you see it on his sign?"

"O! I beg your pardon," replied the old gentleman, "I never look so *high* as that."

Now if the caterpillars should happen to get into his orchard, wouldn't they have a "*time?*"

I think, sir, the swarming myriads of insects demand our utmost vigilance. It wont do for a man to walk among his trees without his "head up," high enough, too, to see any "sign" of unprofitable marauders.

It is a generally admitted fact that insects, such as often prey on apple trees, derive important "aid and comfort" from the ground about the trunk. Their propagation and concealment is assisted by an annual deposit of unadulterated stable manure. Now if the ground were to be cultivated over the whole orchard, and the manure applied broadcast, the hens and chickens would destroy a multitude of insects during the summer. Hens and swine have been confined under plum trees with excellent success. No other course, has, as yet, troubled the curculios very much.

If the orchard is near home, and it is worth most there, the hens will enjoy their daily search under the trees. If the ground is cultivated, and kept mellow, you will have the full benefit of their investigations.

About three years ago, I began to keep hens in my nursery. Whenever the cultivator or plow was started, the fowls were found in the wake, and the way they raked out the worms would surprise one not accustomed to the sight. I have seen a hen ("with yellow legs") swallow sixty-one grubs in an hour. I would not undertake to get through a single summer without my hens and chickens among the young, as well as old trees.

Downing recommends bonfires on June evenings to destroy the millers. I generally give them the full benefit of my collected trimmings. The blaze sometimes scorches their wings, but the hens take wings, legs, bodies and all.

You see, sir, I don't believe in keeping the poultry upon the doorstep. Just give the hens a chance to scratch, and, if they are anything near the good old native breed for enterprise, depend upon it the legs will fly. Respectfully yours, W. D. B.

Concord, Mass., Dec. 5, 1851.

HEAVES IN HORSES.

It has often been remarked to us that the disease in horses called "heaves" is more prevalent now than it was formerly. We cannot say whether it is a fact that there are more horses troubled with this disorder than there used to be, or whether, as there are more horses now in existence, there are consequently more seen troubled in this way, while the comparative number of diseased ones may be the same. We have never been fully satisfied in regard to the real cause of this disease, or the real seat of it. Every one, however, can soon distinguish the symptoms. It consists in a difficulty of breathing,—the flanks or respiratory muscles seem to do the whole work, and that, too, very laboriously. The air is drawn into the lungs when the muscles at the flanks begin to draw in as if pushing out the breath, and after pressing in with a good deal of action, they drop suddenly as if a catch or spring had let go of them, and they fall by their own weight. There is also a dry hacking cough attending the disease, and on driving the horse quick, the cough is often excited, and this laborious breathing is brought on very severely. This would seem to fix the seat of the disease in the lungs. We have noticed, however, that *heavey* horses, as they are called, are generally enormous eaters, and if suffered to eat as much as they want, will fill their stomachs to a most uncomfortable extent, and when thus distended, are much worse troubled than when sparingly fed. Many causes have been alleged as producing this prevalence—such as feeding more freely on clover hay than formerly—dusty hay, caused by the smother of the modern horse-power threshing-machine, in barns where hay is kept, &c. &c. It would seem, from the fact of an increased or morbid appetite in the horse, that the stomach has also taken on diseased action.

Various remedies have been proposed, and some of them relieve or palliate the disease for a time.

We believe that care and attention in feeding is of great consequence. Don't let him fill his stomach too full with dry food. Let his food be moist, and of a nature that contains much nourishment in small bulk. You do not find heavey horses troubled much with this complaint while they are at grass. Then let their food approximate as near to the condition of grass as you can. Cut the hay—wet it, and sprinkle on meal.

A writer in a recent number of the Rural New Yorker, (J. Libbey, of Eagle Harbor, N. Y.,) speaking of this disease, attributes it to feeding on clover hay that has become dusty in consequence of being badly cured. He says he treated a horse that he owned, and that had the heaves, in the following manner: He took the hay entirely away from him, and fed him with straw, mill feed, (shorts, &c., we suppose,) and grain. He thinks if he had cut the straw and wet it with oat or corn meal, it would have been better; but as it was the heaves did not trouble him much.

Those who have good horses that are troubled with heaves—and most heavey horses are those which are naturally most strong and active—should furnish themselves with a straw-cutter and a mush-tub, and give them cut and moistened feed. They will thus not only keep their horse more economically, but will improve his health and keep him in a comfortable condition for any kind of labor.—*Maine Farmer.*

BEAUTIFUL EXTRACT.

Do trees talk? Have they no leafy lungs—do they not at sunrise, when the winds blow, and the birds are carolling their songs, play a sweet music? Who has ever heard the soft whisper of the green leaves in spring time, on a sunny morning, who did not feel as though rainbow gleams of gladness were running through his heart? And then when the peach blossoms hung like rubies from the stem of the parent tree—when the morning glory like a nun before the shrine of God, unfolds her beautiful face, and the moss roses open their crimson lips, sparkling with the nectar that falls from heaven, who does not bless his Maker?

Remarks.—It would be agreeable to us to give credit to the author of the above beautiful paragraph, if we knew to whom it belongs. The observations required in order to write it must have been close; and although they were made among the loveliest things of earth, and afforded the observer enjoyments which military chieftains and ambitious worldlings rarely feel, they ought to be accompanied by his name, and go towards making up his fame. We are constantly surrounded by these interesting phenomena. The closer we study them, the greater will be our enjoyment, and the more shall we abound in gratitude, that we are made capable of seeking out and appreciating them.

Apples for Stock.—A gentleman informed us the other day that having a heap of refuse apples, many of them being rotten, he fed a peck each to a stock of fifteen cows, and that the next morning their mess of milk was increased eight quarts. This experiment in connection with observations he had made had thoroughly satisfied him that apples are highly beneficial to any stock. He thinks they can be raised with profit for this purpose. His judgment is worth something, for he is a large apple producer.

For the New England Farmer.

THE NORTH STOCKBRIDGE FARMERS' CLUB.

BY W. BACON.

Messrs. Editors:—It is but a few years, not more than four or five, since an institution bearing the above name was founded by a few individuals in the neighboring towns of Lenox and Stockbridge. Among its early founders were some of the most learned and enterprising men of the former town, who make it a regular practice to attend its stated meetings, and communicate with those more directly concerned in the cultivation of the soil, upon the best method of carrying out the principles of agricultural improvement.

As is usual, in all such cases, many of the farmers at the beginning thought the whole affair a useless innovation,—a something got up by the lawyer and the doctor to secure their own popularity, and for their part did not wish to go where these fellows were, to hear them "talk about book farming and all that kind of stuff." *They* were brought up on the farm and knew all about it. Other farmers thought the plan a good one at the outset, and opened their doors for the meetings of the Club, and their hearts to give and receive the lessons of experience it was calculated to elicit. As a matter of course, the more of these meetings such individuals attended, the more interest they found in them, and the more interest, the more they were talked about when they met other farmers, and other farmers said that a spirit of inquiry was going on which was likely to elicit new facts in regard to the better management of the farm, and they, too, must be interested in the matter and join the club.

As the result of its progress and triumph, we have now only to refer to the report of its (The North Stockbridge and Lenox Farmers' Club) second Cattle Show and Fair recently held at Lenox, which says, "The number of cattle exhibited was 216. Besides these, it appears there were horses, sheep, swine and poultry,—domestic manufactures,—the products of the dairy, the orchard and the garden in nameless, and for ought we know, innumerable quantities."

No premiums were awarded except the meed of honest praise, which was bestowed in the ratio which the several subjects on exhibition warranted, so that no one was stimulated to exertion through the hope of obtaining a silver cup or a set of spoons, but simply by a laudable ambition to excel, and no one was under necessity of contributing from his funds, to raise an amount to be paid in awards to those more successful than himself.

After the examination by the several committees was closed, the club, numbering more than one hundred, took a dinner got up for the occasion, where ladies as well as gentlemen met to do honor to the festive board. After which an address was given by the president, and the party separated, no doubt happier, wiser and more in love with their

profession and their fellow-men for this day's festivities.

We have made the farmers' club a topic of this communication, because we have long thought that such institutions may be productive of a more general advancement of agricultural progress and of social intercourse among all our farmers.

We have introduced *this* farmers' club, because we have known its progress from the commencement, and it is just such a light shining here, where its brilliancy gladdens our eyes, as we wish to hold up before the agricultural world, and say, as we exhibit its brillancy from our right hand to every town where our sayings may be read, "go thou and do likewise." Do not, gentle reader, if your patience has permitted you to follow us thus far, throw down the paper, with the exclamation, "it may be a good thing, but we can't make a thing of that sort go here, so it is no use to try;" but commence, though at first you may have no one but your next door neighbor to commence with you, and make a matter-of-fact business of it, and our prediction for it, your number will soon increase. Have not the time? What a foolish idea, with all the long evenings which must necesarily pass between now and the 20th of March, to suppose that you cannot visit your friends and neighbors once in two weeks to discuss some subject of practical utility to each of you. And supposing you do now know pretty much all that is to be known about the farm, the garden (O! I'm sorry that's so odious a word with many farmers) and the orchard, you may have the blessed privilege of enlightening others, and therefore making their labor lighter, and perhaps add a few new ideas to scatter gladness in your path.

Come, then, in every community where no such organization exists, let one commence, and however feeble may be its origin, let it go forward. The progress of the age, and more than that, that of the profession, in which every farmer should pride himself, demands that every means which can bear upon the advancement of agriculture, should be brought into action to effect the object. Knowledge is the great lever which is to accomplish wondrous things in increasing the fertility of the earth. It is sure to be so, for its movements are always visible beyond mistake. Let every farmer lay his hands firmly upon this lever, and its effect will become more efficient and more active.

We may, circumstances permitting, at some other time, allude to other ways of advancing agricultural knowledge; but to-night our business is with the *farmers' club*, and we *urge* our appeal in its behalf, because it is a means of which every farmer and every farmer's son may at once, without money and without price, avail himself. It is only to meet your neighbors, as we have already said, once in one, two or three weeks, as you see best, and exchange the knowledge you have gained by experience, for theirs. How cheap and yet how valuable it may prove. What queries may be raised and how many inquiries may be excited by the operation, we don't know and don't care. A spirit of investigation will probably be aroused, which, if properly nourished, will not be satisfied with the aliment it receives at the club-room, but it will go to the press and to the school-room, and eventually to the farmers' institute, for large, draughts of wisdom and knowledge than the humble fountains where its slakings were first attempted can supply. And then, when the farmer employs practice for the line and knowledge for the plummet to regulate his movements, the golden age of agriculture will commence, and labor well directed, bringing abundant harvest to gladden the hearts of all, from spots now blushing in sterility, will cause greatful hearts and wise heads to bless the day when farmers' clubs were scattered like tall beacons of light over the land. W. B.

Dec. 1, 1851.

For the New England Farmer.

BLOODY MILK.

Mr. Editor: — In looking over your last No., (Nov. 8,) I observe the trouble of your correspondent, J. E. Upham, and your perplexity to satisfy his queries, with your request for light on the subject. Without pretending to an "acquaintance with the physiology of the cow," or the proper term for the disease, causing his cow to give "bloody milk," I will state a simple remedy, which I have always found efficacious under similar circumstances, viz:

When one of my cows is affected, I procure a root of the Phytolacca (Poke) plant, which I presume grows wild with you. Of this I cut up finely five to six ounces, and mix with the food. I repeat this, if once does not effect a cure.

Truly yours, A. H. Ernst.

Spring Garden, Cincinnati, Nov. 24.

Remarks.—A gentleman who keeps a stock of sixty to seventy cows, recently informed us that he had lost in cows and milk equal to $500 by the disease called garget, some one or more among his cows constantly giving bloody milk. We give the remedy of our correspondent, as above, only remarking, that we should suppose one-tenth part of the amount he prescribes would be as efficacious in arresting the disease, as "five or six ounces." It is not the *amount* of medicine administered, but whether that medicine is a *specific* for the disease. To prescribe understandingly, we first ought to know how, and what organs are affected; and until we do know this, we should "shudder to destroy life, either by the naked knife, or by the surer and safer medium of empiricism."

DISCOVERY OF NEW FARMS.

Lawyers have known for a long time, that a land-holder owned ever so far down below the surface. But farmers never have seemed to suspect, that their deeds gave them a right to more than six inches of the surface. Nobody hardly has thought of looking deeper than that, except the diggers for gold and water. We have all heard of the classics being covered all over by the prosy homilies of the monks of the Middle Ages; in consequence of which generations have been content with the comparatively worthless surface of their parchments, in ignorance of the rich deposits beneath. Our agriculturists have had a similar experience till now, when the sub-soil plow is revealing to them treasures before unknown. Discoveries in the earth are keeping pace now with those in the sky, and a new earth is open to the culivator, as a new heaven is to the astronomer.

The following conversation at the Farmers' Club, cut from the *Rural New-Yorker*, brings some intelligence of the news:

Dr. Underhill.—I omitted speaking of another great source of phosphate of lime, and that is one which some few farmers have hit upon. I mean that part of the farm which lies six inches deeper under the farm. There, since the deluge, lies undisturbed the fertilizer usually hard. Roots of the grains and annuals cannot penetrate it. There it is and has been accumulating for thousands of years, insoluble, except when roots apply themselves to it. Not one farmer in ten ever plows deeper than five inches. The roots cannot get at the mine below—it is too hard. He cannot afford to buy guano or bone; but he can afford a sub-soil plow. Let him go down fifteen inches into his good farm below, and he may have a new farm good for fifteen years to come.

I never thought until, this year, that my loose sandy, gravelly land wanted sub-soiling. It is so very loose that one almost wades in it. But nevertheless, this year I have sub-soiled 12 to 14 inches deep, and my corn on that tillage has given me a *double crop*. I found the bottom of my very loose top soil had packed; the annual plants could not put their roots through it. My double crop has succeeded in spite of a pretty severe drought. I have for many years always plowed to the depth of from eight to ten inches, but this year I have resorted to *the farm which lies under mine* successfully.

Dr. Church.—Is it necessary to sub-soil every year?

Dr. Underhill.—I think not; but I mean to sub-soil every acre I cultivate at all. It operates, also, as a drainer. It also receives the fertilizer from the atmosphere. The first store of manure is our earth; the second is our atmosphere. That from the latter enters the earth by means of dew and rains—by dew even in times of drought—when a deep-tilled soil can take it up, while a shallow one cannot. Up to this day the shallow work prevails. Nineteen out of twenty farms are so abused. A farmer who can neither buy books nor attend Farmers' Clubs, can nevertheless plow deep.—Let him try it, and if he fails, let him come to this Club and tell us so!

LONG MANURE.

Vegetable and animal matters, when brought into a state of fermentation by the agency of air, heat, and moisture, immediately give off carbonic acid gas, which, if confined beneath the surface of the soil, will become mixed with the moisture there, and be taken up by the roots of plants. And what is carbonic acid gas? It is composed of two parts of oxygen, a constituent of atmospheric air, and one part of carbon, the principal constituent of plants, rendered volatile by the heat of fermentation. It is the digested food of plants; it becomes incorporated with water in the soil, is taken up by the spongioles or roots of plants; transmitted through the sap vessels to the leaves; is there decomposed by the sun's rays; the oxygen passes into the atmosphere; the carbon passes down through another set of vessels, and being gradually disengaged from the water which conveys it, by evaporation, it becomes a solid substance of the plant. Carbon constitutes principally the structure of the stems, branches, and roots of plants, and it can only find access into plants in a fluid state, combined with oxygen. From this view of the matter, the reader will understand why we recommend long manure for hoed autumnal ripening crops, and that why we insist that one half of the value of cattle dung is lost by suffering it to be reduced to the condition of short muck before it is buried in the soil. All vegetable matters contain more or less carbon; and carbouic acid gas is invariably produced in the fermenting and putrefying processes.—*Genesee Farmer.*

WASTE OF MANURE.

Little or no pains is taken usually to save the liquid manure of animals; no earth or saw dust is placed in or beneath the stable to absorb it, and the barn-yard is often so situated that all the liquids that would collect in it, run off into the road, or are conducted to the adjoining field, where they are so little spread about, as to injure the crop by producing an immoderate luxuriance. Liquid manure is exceedingly valuable, and the yards and stables of the farmer should be so constructed, that it may all be saved. There should be no outlet to the barn-yard, where the fluids collected in it can run off. They should either be taken in and applied directly to the land, or poured upon the compost heaps in and around the barn-yard. The turf about his fences and stone walls or the mud and muck from his swamps, should be collected in heaps or spread around his yards in order to absorb the fertilizing liquids collected there.

INTERESTING EXPERIMENT.

If the following, from the London Times, be true, our geological correctors of Moses' cosmogony will have need to correct some of their dates, to say the least:—

Professor Gorini, who is professor of natural history at the University of Lodi, made recently, before a circle of private friends, a remarkable experiment illustrative of his theory as to the formation of mountains. He melts some substances, known only to himself, in a vessel, and allows the liquid to cool. At first it presents an even surface; but a portion continues to ooze up from beneath, and gradually elevations are formed, until at length ranges and chains of hills are formed, exactly corresponding in shape with those which are found on the earth. Even to the stratification the resemblance is complete, and M. Gorini can produce on a small scale the phenomena of volcanoes and earthquakes. He contends, therefore, that the inequalities on the face of the globe are the result of certain materials, first reduced by the application of heat to a liquid state, and then allowed gradually to consolidate.

An Expensive Female.—An economist the other day observed a lady who carried one day's labor of two thousand men upon her shoulders, and that of as many more hanging from her ears. There was not a limb in her body which did not call for the hard work of an entire day of one hundred men or women; and if it were usual to adorn the person with gold, like a Chinese pagoda, instead of silks and furs and textures of lace and wool, what was expended on her dress would have plated her all over with the precious metal.

PATENT OFFICE REPORTS.

In a brief notice of this document in a former number of the Farmer, we had barely time to express our vexation that the mechanical execution of the work is so miserable. We trust that the character of this country, abroad, will not be estimated by this part of the government work. We should be sorry to see so poor a specimen of American printing, binding and paper-making, *away from home*. Having relieved our mind on this point, we are prepared to say something, less in a fault-finding humor.

And first, we feel thankful that Agriculture has, at last, been thought worthy of some attention by the government. Washington thought the subject, in his day, called earnestly for the aid of legislation. President Fillmore, in his recent message, calls upon Congress to establish a Bureau of Agriculture. How far the general government should go—precisely what measures should be adopted, to aid the branch of industry which occupies four-fifths of our whole population, we will not now undertake to say—not far enough, at all events, to raise any questions of a political character.

To the establishment of some system, by which the agricultural wealth and resources of the country may be ascertained—by which knowledge of the best modes of husbandry of the various crops may be disseminated, and by which the *statistics* of Agriculture may be collected—no objection can be urged.

No man can attentively examine the report before us without being struck with the importance of some such system. A very small amount has been appropriated for the purpose, and we are informed, not a single dollar has been paid for contributions to the report, and yet by the communications voluntarily furnished, a mass of valuable information has been collected, which can be found no where else. The want of some central point where interesting agricultural facts and theories may be collected and compared, has long been felt. In several States, attempts have been made to establish agricultural schools, but as yet, no single school has been established in the United States. In New York, the subject for thirty years has been before the legislature, but without success, and in Massachusetts, where *education* in all other branches has received so much attention, no great favor has yet been shown to *agricultural* education. At page 145 of the Report may be found an interesting article on this subject, principally from the report of Hon. M. P. Wilder.

An article by Daniel Lee, M. D., upon "The Study of Soils," occupies about sixty pages of the report, and is worthy of its conspicuous position. Then follow treatises upon Fruit Culture—Wheat—Neat Cattle—Manure and Sheep Husbandry, with numerous communications upon miscellaneous subjects.

A comparison of the expense of raising the various crops in the several States of the Union, and of the costs of rearing domestic animals, affords some curious results. While, for instance, in Massachusetts, it cost about twenty-five dollars to rear a calf till it is three years old, in Wisconsin it costs but *eight*, and in Texas *nothing* but the expense of marking them, to raise a whole drove of cattle!

But we find it impossible to glance even at the contents of this report. Defective as it is in execution and arrangement, it is still of great value to the farmer for its practical details—and to the cause of agriculture generally, for the evidence it affords of the value of systematic effort in gaining accurate knowledge.

The great obstacle in the way of the advancement of agricultural science, is the inability of farmers *to compare their results*. The same experiment is tried a thousand times, and no results are published, when perhaps the whole matter might be set at rest by a single course of experiments, carefully conducted by competent men, were the facts made known. Some remedy for this evil must be devised. Whether it shall be an Agricultural Bureau at Washington, or Agricultural Colleges founded by State legislation, or by both in concert, or whether it should be left to the voluntary association of those interested in the cause, are open questions. One thing is certain, the farmers of the country are beginning to understand and assert their rights.

The end in view will be, ere long, attained, and we will conclude our rambling remarks by a word of advice to political men. If you intend to maintain a quiet conscience, and *keep with the majority*, be careful not to vote against the interests of agriculture!

For the New England Farmer.

LABOR NECESSARY TO HEALTH AND HAPPINESS.

BY A. TODD.

It is an undeniable fact that no class of mankind enjoy so good health, or possess such an amount of real happiness, as the working class. The man who earns his bread by the sweat of his brow, is the best calculated to live in the enjoyment of that health and happiness which make his journey through life pleasant and cheerful. The Creator has so constituted man, that it is as necessary for him to labor, in order to enjoy health and happiness, as it is to have refreshing rains to give life and nourishment to vegetation. Man was never designed for a life of inactivity and consequent ease; and that individual who seeks for happiness and contentment in the lap of ease and indolence, must ever expect to be perplexed and troubled in body and mind.

It is impossible for an individual to live in the enjoyment of health without engaging in some sort of labor, whereby he can exercise himself bodily and mentally; because it would be contrary to the laws of nature to have a man in full possession of bodily health without it. And it is impossible,

too, for a man to attain to any important or elevated station in society without devoting some part of his time to the exercise of his body and mind. Hardly a great man can be pointed to, who has not, in the early part of his career, labored with his hands and made himself hale and robust by the exercise of his bodily powers.

There is no business so well calculated to fit a man for the enjoyment of that happiness attendant on domestic life, as the cultivation of the soil. And there is no business that gives such health to the body, and soundness of mind, as this. In my opinion, the farmer's life is the happiest life a man can live. But as I have said, *labor is* necessary to the health and happiness of mankind. The importance of labor is too little thought of, and what is still worse, the idea is too prevalent that to labor with one's hands is disgraceful. But the Almighty, in His wise arrangement, has said that he who will not work shall not eat. To those who think it is disgraceful to labor, let me point them to some of our greatest and most learned men, as examples. When Washington, whose fame is world-wide, first received the news of his election to the presidency of the United States, he was following the plow in his fields. Daniel Webster, whose name is familiar with every school-boy, was born in a log cabin among the granite hills of New Hampshire,—and here his noble mind expanded while tilling the earth. Henry Clay was once a poor boy, and knew what it was to labor; and what school-boy cannot tell what business Elihu Burritt followed while pursuing his studies; hence it is evident that if our greatest men, by laboring from the rising to the setting sun, have won for themselves laurels of fame, it is not *disgraceful* to labor. Then let me utter in the ears of those who desire a happy and contented life, and who wish to enjoy a peaceful mind, to engage in some sort of daily labor; for to be engaged in *honest* labor is manly and noble; and "for six thousand years God has been uttering it in human ears, that he who will not work, shall not enjoy."

Smithfield, R. I., Dec., 1851. A. T.

ENGLISH LUXURIOUSNESS.

Few of us whose lives are passed in republican simplicity, have any definite idea of the amount of wealth and splendor that surrounds many of the English nobles in their princely residences. An intelligent American, writing from England, describes some of these things.

The Earl of Spencer's homestead, about 60 miles from London, comprises ten thousand acres, tastefully divided into parks, meadows, pastures, woods and gardens. His library, called the finest private library in the world, contains fifty thousand volumes. Extensive and elegant stables, green-houses and conservatories, game-keeper's house, dairy-house, dog-kennels, porter's lodge, and farm-houses without number, go to complete the establishment. Hundreds of sheep and cattle graze in the parks about the house.

The Duke of Richmond's home farm, at Goodwood, 60 miles from London, consists of twenty-three thousand acres, or over thirty-five square miles. And this is in crowded England, which has a population of 16,000,000, and an area of only 50,000 square miles, or just 32,000,000 of acres, giving, were the land equally divided, but two acres to each inhabitant. The residence of the duke is a perfect palace. One extensive hall is covered with yellow silk and pictures in the richest and most costly tapestry. The dishes and plates upon the table are all of porcelain, silver and gold. Twenty-five race horses stand in the stable, each being assigned to the care of a special groom. A grotto near the house, the ladies spent six years in adorning. An aviary is supplied with almost every variety of rare and elegant birds. Large herds of cattle, sheep, and deer, are spread over the immense lawns.

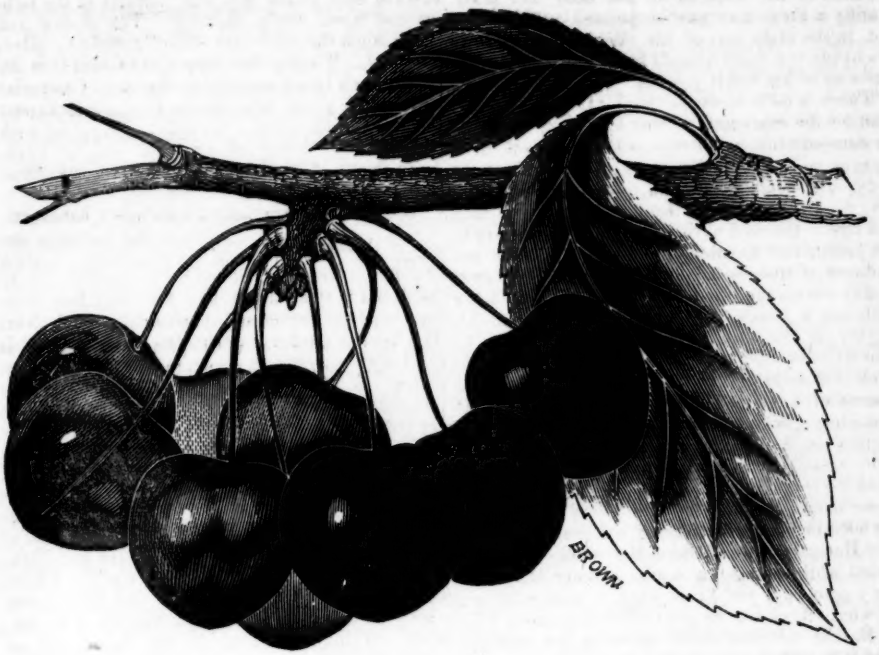
The Duke of Devonshire's place, at Chatsworth, is said to exceed in magnificence any other in the kingdom. The income of the duke is one million of dollars a year, and he is said to spend it all. In the grounds about his house, are kept four hundred head of cattle and fourteen hundred deer. The kitchen garden contains twelve acres, and is filled with almost every species of fruit and vegetables. A vast *arboretum* connected with the establishment is designed to contain a sample of every tree that grows. There is also a glass conservatory 387 feet in length, 112 in breadth, 67 in height, covered by 76,000 square feet of glass, and warmed by seven miles of pipes conveying hot water. One plant was obtained from India by a special messenger, and is valued at $10,000. One of the fountains near the house plays 276 feet high, said to be the highest jet in the world. Chatsworth contains 3500 acres, but the duke owns ninety-six thousand acres in the county of Derbyshire. Within, the entire is one vast scene of paintings, sculpture, mosaic work, carved wainscoting, and all the elegancies and luxuries within the reach of almost boundless wealth and highly refined taste.—*Exeter News Letter.*

RED SNOW.

A correspondent of the "Rochester Democrat" thus remarks upon the red snow found in the Arctic regions by the Rescue and Advance:

"How many new things excite the wonder of this age. The red snow was known on the Alps more than 2,000 years ago. Pliny mentions it in his history. Agassiz found it in abundance on the glaciers of the Alps a few years ago. He says that at the height of 7,000 feet above the level of the sea, there has long been on the snow of the Alps red snow a few inches deep and miles in circuit. It is on the surface of the common snow. It depends on a microscopic plant, a linchen, with some animal infusoria. Agassiz states that at 9,000 feet ten kinds of plants, infusoria and some crustacea, have been found, and that these give a deep red color to the snow. As this substance grows finely in such an elevated position, and in a temperature below the freezing point, it is not strange that a temperature of 40 or 60 degrees should dissolve it and the infursoria and crustacea, and tinge the water with deep red, or that such should be the composition that it can be preserved for a considerable time. The substance may not easily take on chemical action.

☞ Deal gently with those who stray. Draw back by love and persuasion. A kiss is worth a thousand kicks. A kind word is more valuable to the lost than a mine of gold. Think of this and be on your guard, ye who would chase to the grave an erring brother.



BLACK TARTAREAN CHERRY.

The above beautiful portrait was drawn and engraved expressly for our columns.

The Black Tartarean is a favorite everywhere, and Mr. Downing says that in "size, flavor and productiveness, it has no superior among black cherries. It is a Russian and West Asian variety, introduced into England about 1796, and brought thence to this country about twenty years ago. It is remarkable for its rapid, vigorous growth, large leaves and the erect habit of its head. The fruit ripens about the middle of June, a few days after the Mayduke.

"Fruit of the largest size, heart-shaped, (sometimes rather obtuse,) irregular and uneven on the surface. Skin glossy, bright purplish black. Flesh purplish, thick, (the stone being quite small,) half tender, and juicy. Flesh very tender and delicious!"

There are several advantages in cultivating the cherry. The tree itself is highly ornamental, it puts forth early in spring, and is covered with clusters of snow-white blossoms. The fruit is wholesome and is in demand in the market. It is easily cultivated, and produces one of the earliest and best fruits for pies or the dessert.

☞ A year of pleasure passes like a floating breeze—but a moment of misfortune seems an age of pain.

FARM WORK FOR JANUARY.

Short, cold days, and long and colder nights, now have their turn in the varied year. The animals which are our servants, and to whom we look for both pleasure and profit, now demand our especial care. They not only require food and shelter, but good nutritious food, and such a degree of warmth as will enable them to remain in their stalls in a quiet and comfortable manner. Without these they will do you no credit as a skilful manager, and yield no profit in the stock department of your farm operations. Well protected, then, so as to be comfortable ourselves, let us take a look at one of our most valuable animals, the kind and patient Cow. Milk, one of the most wholesome and nutritious articles of food that we possess, has come to be an important item of trade in all the large cities. The amount consumed has been wonderfully increased within a few years. It has become a common article of food among many thousands who never have enjoyed this luxury before. It is called for at the tables of the public hotels, and at the common eating-houses, almost as freely as for "roast beef." Consequently the price of good cows has increased in a corresponding ratio, and they have become one of the most expensive, as well as profitable, part of the farmer's stock.

It is hardly worth while to feed meadow hay to milch cows, as it will not supply the heavy draught made upon them while yielding eight or ten quarts

of milk a day. Let that cheap fodder go to the young cattle, or the hardy oxen, for their first foddering in the morning and their last at night, during the sharp and frosty weather. With the milch cows, a full and generous supply of milk depends entirely upon a full and generous supply of the right kind of fodder. For this purpose, carrots among the roots stand pre-eminent, if richness, rather than quantity is desired. The various kinds of turnips, beets, and parsnips, are good, especially the latter root, and fed with dry fodder, keep the animals healthy and yielding a full flow of milk.

Cows should always be treated with gentleness, not exposed to sudden extremes by being turned from the barn to a bleak place to drink, where the sharp wind pierces to their bones, and only suffered to remain out through the middle of the day when the weather is mild and sunny. Their stalls ought to be dry, clean, and free from dust and accumulations of every kind. A strong draft should not be permitted to pass up through the floor upon which they stand, as it is liable to give them colds, rheumatism, and injure the udder.

After proper sheltering and feeding, much may be done for the cow by a judicious use of the curry-comb or card. No accumulations of filth should be allowed to rest upon the skin, even if washing is sometimes found necessary. Cattle will thrive better and require less food where the skin is kept soft and loose by proper care. An eminent physician, Dr. Rush, stated in a lecture upon the advantages of studying the diseases of animals, that there is an improvement in the *quality of the milk*, and an *increase of the quantity*, which are obtained by currying the cow. No farmer who has been in the habit of properly attending his cows, and has been familiar with the products of some of his less careful neighbor's stock, will doubt the correctness of the doctor's statement. Indeed, a high degree of thrift and health is as necessary in the cow in order that she may yield a full flow of milk, as it is in the ox or horse, that they may be able to perform well their labor.

On the other hand, care must be taken that the feed is not too concentrated and high. Severe losses occurred in some neighborhoods from this cause during the last winter. Milk sales were quick, and when the failing green feed and cold weather cut off the quantity, a forced feeding was resorted to in the form of corn and oil meal, shorts, &c., which by over feeding generated disease, and often an entire loss of milk, with an occasional loss of the animal itself. These remarks are particularly applicable along the line of railroads, where milk is collected in large quantities for the city markets. Little or no danger of this kind is to be apprehended where milk is not produced for this purpose.

Cows that are to "come in" in the spring should be kept in good flesh constantly, for the most careful management after calving will fail to make them yield so large an amount of milk through the season as they would have furnished, had they been kept in good condition through the winter

Bees.—In return for the sweets which these interesting insects afford you, they ought to have a little attention to ascertain whether a mouse has invaded their dominions, or their table is supplied with food. A weak swarm will sometimes fail to lay up honey sufficient for their winter wants. In such case place full combs from other bees in the top of their hives or in any place inside where they can get at it. They are not easily affected by the cold, but very soon feel the force of the sun's rays, even in very cold weather, and as it is not desirable that they move much until spring, that part of the hive exposed to the sun should be protected.

For the New England Farmer.

AUNT HANNAH AND MINISTER APPLES.

BY R. A. MERRIAM.

Mr Brown:—To redeem a pledge which I made to your firm some month or two since, I propose to say a word in favor of one or two varieties of apples, which I have growing on my farm, in Ipswich, and which are not so generally known as they deserve to be, and which, if they were so known, would be more cultivated.

In the first place, I will introduce your numerous readers to the very worthy and somewhat venerable name of "Aunt Hannah," being the oldest, but little known except in the immediate neighborhood of its origin. This apple originated on the farm of the late Col. Benjamin Peabody, of Middleton, now owned by John M. Ives, Esq., some fifty years ago, that is, I have known it for this length of time. I think the first tree of the kind planted on my farm must be over forty years old. The tree, though not larger than from ten to twelve inches in diameter, is healthy and vigorous and bears from one to two barrels of apples pretty uniformly. The apples sell for from three to five dollars a barrel; those who have once had them generally call for them again. They are the first apples selected by trespassers, and we usually lose about one-half of them by intruders; we lost nearly the whole this year after they were gathered.

This apple requires high culture, and secure position from pilferers.

It may be with this apple like most other aunts, most loved among her most immediate friends and acquaintances, and I myself may be of this number; still, I think every amateur gardener should have one or more trees of this kind in his garden.

The Aunt Hannah is of medium size, fair, green, with brown spots upon the surface, hard and firm pulp and crisp, very slightly acid and spicy taste, yellowish, when ripe, inside and out, suited for the desert, in December.

The "Minister Apple" is one which deserves to be more extensively cultivated than it is at present, although it has a good character in the eastern part of the country, where it originated. I understand it was found in the woods in Rowley twenty or thirty years ago and has been propagated somewhat in that region. It is a very large fair apple

with red stripes, quite acid, very tender pulp, more fit for culinary than table use, although not unpleasant for eating at this time. But the most remarkable property which belongs to it is its bearing qualities. It bears every year most abundantly, equal at least to the Baldwin, quite as large as this most favorite apple. It is very tender and requires very delicate handling when gathered, ripe in November and will keep till Jan. or longer. refused by boys when they can find the "Aunt Hannah!"

N. B. I have some fifty trees of the latter, three years from the bud, which I will sell, or give away as the case may be. R. A. M.

Topsfield, Dec. 8, 1851.

For the New England Farmer.

THE WHEAT CROP.

BY RUFUS M'INTIRE.

Writers of late in agricultural publications account satisfactorily to themselves for the failure of the wheat crop on lands much cultivated, in asserting that certain elements in the soil essential to the production of wheat has, by bad husbandry, been exhausted or used up. They suppose that if their particular element could be restored, wheat could again be raised as abundantly as when the land was first cleared. They particularly mention the want of soluble silica as one principal cause of failure. This looks plausible, but still there are difficulties encountered in raising wheat, that their suggestions and rules do not seem to remove. In many places near the seaboard, wheat will occasionally produce bountifully; but four years in five, will, by rust, blast, mildew or some other disease, prove an entire failure, and this without any regard to how the land has been cultivated or manured. To supply what these learned writers say is wanting, they recommend the raising of clover and plowing it in green, as affording the requisite food for wheat, because, they say, clover contains the identical ingredients essential to the production of wheat. If so, pray where does the clover obtain the wanting ingredients? Cannot wheat find the materials as well as clover? Again they say, peas are a good crop to precede wheat to be used green as a manure, because it affords some ingredients useful in the growth of wheat, but extract little or no soluble silica from the soil, and leave it there for the future crop of wheat. Does this soluble silica rejected by peas increase by rest for the use of wheat? if not, why is it more available for wheat after this non-user by peas than before? I would not be understood to deny the fact that clover and peas do furnish a good manure for wheat; but I am considering the reasons given for it by agricultural chemists as a matter of science.

They further tell us that the want of soluble silica in the soil is the cause of the weakness in wheat straw, so that it will not sustain itself upright but lodge when the land is manured to produce a large growth. Experienced farmers have long noticed the fact on old cultivated farms, and the reason would be satisfactory if they did not know that Indian corn on the same lands finds no obstacle to procuring abundant glazing matter to give to its stock all needed stiffness. The silica appears to be there, and why cannot the wheat use it as well as the corn? I make these queries for the purpose of suggesting that the successful cultivation of wheat may depend upon what it obtains from the atmosphere as well as what it takes from the soil—and further, that agricultural chemistry is but in its infancy—and that to make it useful to the farmer the analysis of the laboratory should be subjected to the test of careful and extended experiments in the field. It is to be regretted that much in the lectures of learned professors professing to teach the revelations of science, will on examination be found to be *hear says* and *say sos.* For instance, one professor in discoursing on the modes of preserving milk sweet, gravely says, that it *is said* milk put into bottles and corked tight and then boiled or scalded in water a certain length of time, will keep sweet for a long period.—The learned professor should have informed his auditors where they could get bottles strong enough to bear the operation. I have heard of witch doctor's endeavoring to kill the old woman supposed to have bewitched the churn so that it would not make butter, bottled the cream up and subjected it to the same scalding process; but when about to boil, the witch finding herself uncomfortably warm, burst the bottles and escaped. The doctor boasted he should have killed the witch, if the bottles had been strong enough. R. M.

Parsonsfield, Me.

For the New England Farmer.

THE CRANBERRY.

MR. EDITOR:—I have read the admonitions of your correspondent in your paper of this date, and hope to profit by his advice. He will allow me to say, that his criticism seems to be carping at the meaning of words, and words only. I am not able to perceive any misapprehension of the idea, by the manner in which the quotation was made; nor was I aware of any abridgment or alteration of the sentence, until mentioned by him. I perceive now an idea of his, by his explanation, that would not have been thought of, without such explanation. But I am content to endeavor to promote the growth of the cranberry; and to let words take care of themselves.

Yours truly, P.

Dec. 13, 1851.

LAUGH AND BE WISE.

The man's a dolt who lets in grief,
When he might ope the door to laughter;
If tears afford the heart relief,
They leave a void for some hours after.
Dull sorrow is a malady,
That ends in lunacy or phthisic;
But mirth is nature's recipe,
And laughter is the best of physic.

The kings of old, to shun at least
The ill effects of melancholy,
Kept merry folks, to crown life's feast
With sparkling wit and harmless folly;
So Comus rules with buoyant hand—
To mirth turns fear, and pain, and sadness,
And sends forth, ringing through the land,
The laughing shout of hope and gladness.

Care, oft indulged, is like a fire
That flames and burns the more you blow it,
Or, like a sexton—wrinkled, dire—
Who digs your grave before you know it.
For young or old—for sage or clown—
For all who live, or may hereafter—
To cure life's ills, or keep them down,
There's nothing like a fit of laughter.

POTATO-ROT.

The article in another column upon this subject, in connection with the laws of vegetable growth and decay, by Professor HOYT, we commend to our readers, as one of the most thoroughly scientific investigations of the subject of the potato-rot that has yet appeared.

The statement which we published a few weeks since, showing that potatoes rotted more upon recent coal hearths, than places adjacent, has attracted much attention. The explanation since given by Mr. COMINGS in the Farmer should be understood by all. It is, that *carbonic acid* and not *charcoal* induces the rot. It is true that carbonic acid is formed of carbon (or charcoal) and oxygen, but it is *not* formed of charcoal except by *burning* it. Coal undergoes no change on exposure to the air, or when imbedded in the ground, and generates no carbonic acid. It has the power, when applied to the soil, of absorbing for the support of vegetation large quantities of valuable gaseous matters, as for instance, of ammonia, it is said to absorb 95 times its own bulk. The conclusion of the whole matter would seem to be that although the potato may rot on land where coal-pits have been burned, or on land on which earth from coal hearths filled with carbonic acid has been spread, yet charcoal itself can produce no similar effect. The gas formed when charcoal is slowly *burned*, in a close room, often produces death, but a man might sleep without danger, in a charcoal bin, unless set on fire.

The subject is peculiarly interesting, as showing the value of science applied to agriculture.

For the New England Farmer.

TO THAW OUT FROZEN PUMPS.

BY SANFORD ADAMS.

MR. EDITOR:—If I can be allowed the privilege, I think there may be some light thrown in the way of your readers to relieve them of much trouble which they have hitherto experienced during the inclement season. With a little care and suitable knowledge, much time and perplexity may be saved. The best way that has ever yet been found to secure a log pump from freezing, is to have a steam box from the platform to the nose a foot square, and connected with the pump so that the pump shall make one side of the box and an aperture through the platform to let the steam into it from the well.

This plan keeps the water cool through the summer, and the steam from the water in the well rises into the box and prevents the pump from freezing in winter, provided there is a tight platform and properly secured around it. Many pumps have a vent under the platform. Some let off by raising the handle, which brings the upper box in contact with the lower valve so as to open it. If a pump, through negligence, gets frozen, it is a very easy matter to thaw it out if one knows how. Some will heat iron bars and put in, some will put in salt, and either of these will do the work if one has patience. But the quickest and easiest way is to use a ½ or ¾ inch lead pipe and boiling hot water. A pump that is frozen 10 feet solid, may be thawed out in 10 minutes, by having a pipe to reach as low as it is frozen. Put one end of the pipe down the pump on the ice, swell the other to admit a tunnel, pour in the hot water, and the way the pipe settles down is a caution to the one that holds it. There is a current of hot water acting on the ice which does its work and rises outside. A barrel of hot water may be turned in without a pipe, and it will penetrate but a little depth before running off.

If any individual can gather information from these few plain ideas, I shall be amply paid for this communication.

What is there that adds more to the domestic comforts of a family through the inclement season, than a good supply of wood and water near at hand.

Wilmington, Dec. 15, 1851.

REMARKS.—These "few plain ideas," as our correspondent calls them, are just what are wanted Dozens of pumps are ruined every year for want of knowledge how to thaw them out when frozen. The same method of thawing will apply to sink spouts.

A QUESTION.

HOW DOES WATER EXTINGUISH FIRE?

It would seem almost paradoxical at first glance, that water should extinguish fire, considering the elementary compounds of water, which are hydrogen and oxygen, the former being the most inflammable substance known, the latter, the chief supporter of combustion. In the first place, let us inquire how fire is extinguished? In putting out fire, we act on two principles: first, shutting out the air, by which it is deprived of its supporter, oxygen, or, in other words, smothering it. Second—by lowering the temperature of the combustible below the point of ignition, which, in most solid substances, is about one thousand degrees Fahrenheit. Any temperature much below this point destroys the affinity of the combustible for oxygen, therefore causing the combustion to cease. Now, when we use water to put out fire, on this last principle, the water coming in contact with the fire is immediately converted into steam or vapor, which absorbs nine hundred and fifty degrees of heat from the combustible. This soon lowers the temperature of it below the point of ignition, therefore the combustion ceases. The question may arise, why does not alcohol, being a fluid like water, extinguish fire? The reason is this: water is a natural compound, formed by nature, and found everywhere in nature. The elements of which it is composed have a strong affinity for each other. Chemical affinity is now supposed to depend on electricity, and caloric is the agent which destroys or opposes it. Now, when water comes in contact with fire, the caloric weakens very much the chemical affinity between its two elements, causing it to assume the form of steam; yet the affinity is strong enough to hold it in this form. Alcohol is an artificial compound, found nowhere in nature, nor formed by nature, but is always the product of art. Its elements, carbon, hydrogen and oxygen, have a very weak chemical affinity for each other, in the proportions in which they are united to form

this particular compound. Hence, when it comes in contact with fire, the caloric so destroys the chemical affinity of this compound, that it is at once resolved into its elements; its hydrogen and carbon immediately become inflamed.—*Phila. Dollar Newspaper.*

INTERESTING INFORMATION.

1. Why does coke burn without smoke? Because it is the distilled coal remaining in the retorts after the above process, and is consequently freed from all gases and vapors. Dr. Arnott observes, that "a pound of coke produces nearly as much heat as a pound of coal;" but we must remember that a pound of coal gives only three-quarters of a pound of coke, although the latter is more bulky than the former.

2. Why is a man jumping from a carriage at speed, in greater danger of falling, after his feet reach the ground? Because his body has as much forward velocity as if he had been running with the speed of the carriage, and unless he advance his feet as in running, he must as certainly be dashed to the ground, as a runner whose feet are suddenly arrested.—*Arnott.*

3. Why are serpents said to leap? Because they fold their bodies into several undulations, which they unbend all at once, according as they wish to give more or less velocity to their motion. The body of some serpents is thrown by the muscles into a very rigid state, when irritated; in which condition it breaks into fragments by the slightest stroke.

4. Why does a horse in the circus lean to the centre? Because, when the horse moves round with the performer standing on the saddle, both the horse and rider incline continually toward the centre of the ring, and the inclination of their weights counteract the effect of the centrifugal force.

5. Why is the robin the last bird that retires in the evening? Because its fine large eyes are fitted to receive all, even the weakest rays of light that appear. The worm is its food, too, and few that move upon the surface escape its notice.

6. Why was the chameleon formerly said to feed on air? Because its lungs are very large, and by expanding them, the animal can, at pleasure, make itself appear large or small.

7. Why does the sting of insects not only pierce the skin, but leave considerable pain? Because the sting is hollow, and conveys the irritating or poisoning fluid within the wound, from a peculiar bag.

8. Why do bubbles rise on a cup of tea when a lump of sugar is dropped into it? Because the sugar is porous, and the air which filled its pores then escapes to the surface of the tea, and the liquid takes its place.

9. Why is British oak more durable than that of North America? Because variable weather, as in Britain, conduces to firmness, whereas the hot summers of North America impoverish its growth.

Premium Apples.—Dr. Walker presented to the Hampshire and Hampden Society, at their Show on the 8th of October last, some apples of the Rhode Island Greening variety, sixty of which made a bushel. They were from a tree budded on a seedling, and supposed to be only eight years from the seed.

For the New England Farmer.

GREEN PAINT.

A majority of your readers are more or less interested in the use of green paint. I will therefore give you the component parts, as manufactured by some large establishments in our principal cities, and sold as *genuine*. To be sure when first applied it is a beautiful green, but soon fades, and whitens out, as might be expected, when you are informed that one of the principal ingredients is lime.

To make Paris Green.

The body is . . . . . Arsenic.
To color, use . . . . . Blue Vitriol.
To set, ... Baromit.

To make Verdigris Paint.

For a body, . . . Good Thomaston Lime.
To color, ... Blue Vitriol and Baromit.
To set, ... Alum and a little Salt.

Put up in tin cans, and marked,

☞ "Pure Verdigris Paint." ☜

This costs, per pound, to manufacture, about 12 cents, and retails at about 40 cents.

To make a green paint "that is paint," pulverize Verdigris. First prime with a lead color; then two or three coats of Verdigris and Linseed Oil. This will last an age. To freshen the color, once in eight or ten years apply a thin coat of linseed oil.

A durable and cheap paint for barns and outbuildings is an

Invisible Green.

To 5 measures of French Yellow mix 1 measure of Lampblack, with Linseed Oil applied raw, *without boiling*, or any spirits of turpentine, which the painters will object to, especially if they work "*by the job.*" Oil used in a raw state dries slow, but will wear much longer; and the spirits of turpentine is used to make the paint spread easy, and to dry quick. But it kills the life of the paint, in proportion to the quantity used; as may be observed by examining the knots in a pine board,—the pitch kills, or *eats up*, the paint.

One measure of Venetian Red added to the above invisible green, makes a very handsome paint for out-buildings, and we think the colors look none the worse, as they fade.

Middlebury, Vt. S. W. Jewett.

For the New England Farmer.

WHITE GRAPES.

Dear Sir:—I have been trying some time to get a native white grape in my garden, and have had several sent me that were called so, by friends in different parts of the country, but they have all but one, and that nearly so, turned out to be more of a brown or brick-dust color, with, to me, a dreadful musty flavor. Will some one of your correspondents give the desired information.

Truly yours, R. Lowe.

New York, Dec. 1, 1851.

Moore's Rural New-Yorker, is a capital paper. It is published at Rochester, one of the most beautiful cities in the country, is printed well, is judicious in its extracts and subjects for editorials, and opens rich like a honey-comb, having sweets in every cell.

For the New England Farmer.

POTATO-ROT,

IN CONNECTION WITH THE LAWS OF VEGETABLE GROWTH AND DECAY.

BY PROF. J. G. HOYT.

It is not wonderful, that the *potato*, constituting as it does an important, and, in many cases, the principal article of food throughout the civilized world, should be a leading topic of discussion in all our Agricultural journals. What ails it, and what will cure it, are questions of absorbing interest to every one who can wield a knife and fork.

Amid the heterogeneous mass of testimony presented on the subject of the potato-rot, it is extremely difficult, if not altogether impossible, to ascertain the truth. The witnesses on the stand, embracing the most experienced agriculturists as well as men eminent in science, contradict each other on some of the most important points in the case. Experiments, conducted apparently with equal care and skill, have led to totally different results. There was "method" in Hamlet's madness, but there seems to be no method in the potato-rot. Every sort of seed, prepared in every imaginable way, has been planted at every period in the season, in every variety of climate and temperature, on every kind of soil, dressed with every species of manure, applied in every practicable degree and manner, and yet the rot, without any apparent discrimination or regard to any regular system of procedure, has committed its ravages alike under all circumstances and in all places. Various and contradictory theories in relation to the matter have been advanced and defended, each in its turn, with commendable zeal and activity. But if nature, as Pope says with more truth than poetry,

"Acts not by partial but by general laws,"

laws simple and immutable, then every theory, whether based on *botrytis* or "black bugs," must, to deserve our notice, accord in all its parts with the laws of nature. The theory which seems to us to harmonize best with the established laws of vegetable growth and decay, and at the same time to reconcile, to the greatest extent, the discordant facts in the case, we will take the liberty to state and explain, as briefly as we can.

THEORY.

The rot is not the result of accidental causes, but is a disease, partly epidemic and partly hereditary. This disease may properly enough be termed a *dropsy*, caused by an excessive accumulation of unelaborated juices in the tuber. The plausibleness, if not the truth, of this theory will appear evident from several considerations. The commencement of the rot in the tuber is, with *very* rare exceptions, susceptible of philosophic explanation, *subsequent* to the blight in the leaves. This fact indicates, with sufficient plainness, that the disease has its origin in the tops. It is reasonable, aside from the fact, that this should be the case; for the young potatoes have no function to perform in the growth or decay of the plant—they are merely incidental, and their entire destruction should in the nature of things no more affect the plant, than the decay of apples on a tree should affect the tree. The fruit in each case is the passive product, and not the active producer, of an organism over which it has no control. If, then, the potato-rot originates in the tops, it becomes important to know the part which these tops perform in the economy of vegetation. The leaves of the plant sustain towards the tuber the same relation which the lungs of a man sustain to the human body. They discharge two important functions: the one of *respiration*, the other of *perspiration*.

In the first place, then, the leaves are the respiratory organs of the plant. The sap or blood of the potato plant is not fit for the growth of the tuber until it has undergone a certain chemical change in the leaf, where it comes in contact with the air. The fact that the peculiar mechanism of the leaf does work a decided change in the sap of a plant, is strikingly illustrated in the process of grafting. The *scion*, and not the root or trunk of the tree in which it is inserted, determines the character of the fruit. Animals in respiration give off carbonic acid and absorb oxygen; plants, reversing this process during the day, absorb carbonic acid, which in the laboratory of the leaf is analyzed, the oxygen thrown off and the carbon appropriated to the growth of the plant. This carbon not only furnishes the material for the woody stalks and limbs, but, in the case of the potato, contributes about one-fourth of the starch or nutritive substance of the tuber. The moment, therefore, the leaves of the potato are from any cause destroyed or rendered incapable of performing their duties, the sap ceases to be carbonated, and becomes, as a necessary consequence, unhealthy and stagnant in the stalk, until at length by mere force of gravity it settles down through the cellular tissue into the tuber.

In the second place, the leaves are the perspiratory organs of the plant. The watery parts of the sap are thrown off by the leaves, just as the watery parts of the blood are thrown off by the lungs. This is seen in the excessive perspiration which constitutes *mildew*, as plainly as pulmonary vapor is seen in a frosty morning. Now if the leaf is unseasonably destroyed or blighted, the insensible perspiration is checked, and all the vessels of the plant become distended with a superabundance of aqueous moisture. If the tops should be light and the weather at the time dry and hot, evaporation from the stalk might carry off the excessive sap before it should become diseased and find its way down to the tuber; but if the tops should be rank and the weather wet, the sap would stagnate in the stalks and result eventually in the rot.

The whole process of the potato-rot, then, seems to be this: First, the leaves are from some cause blighted. Secondly, the sap, excessive from want of transpiration through the leaf and uncarbonated from want of contact with the air, becomes diseased, and finally settles down by its own weight into the tuber. Under this pressure of circumstances, the tuber, surcharged and bloated with the corrupt and fetid juices of the decaying plant, rots as in duty bound.

It may be proper in this connection to notice the objection to this theory, growing out of the fact, that the tubers do sometimes decay, as in the case of Mr. Comings, before the leaves are blighted. In all such instances, we have no doubt that the *seed*, gathered probably from a rotten field, was to a greater or less extent affected with the disease. This disease, by the laws of "ordinary generation," is transmitted from the "representative head" to the descendants. Tops, roots and tubers are "altogether born in sin." The taint, which was

lurking in the system of the parent potato, is communicated to the progeny, fulfilling the Scripture—"the iniquities of the fathers shall be visited upon the children to the third and fourth generations." Leaving out of the account, therefore, those few cases, where, in consequence of unhealthy seed, the indications of disease are as likely to appear first in one part of the plant as another, the proposition, that the rot in the tuber is subsequent to the blight of the tops, is in accordance with truth as well as general observation.

The inquiry now arises, what is the cause of the blight in the leaves and stalks of the potato? This question has received a variety of answers. In view, however, of all the light which now shines upon the subject, we may say safely enough in a general way, that the blight results from one of two causes—either from the ravages of minute insects or from some peculiar atmospheric influence. The fact that it occurs every year at about the same time, would be equally favorable to either of these suppositions. Every species of insect has some distinct period, longer or shorter, assigned to it, in which to commit its depredations. The rose-bugs are a familiar illustration of this truth. So, too, in the atmosphere, those subtle agencies, which are fatal to life in the animal as well as in the vegetable world, exercise their power only in fixed periods and at regular intervals. Fevers are a familiar illustration of this truth. Certain well-attested facts would seem to indicate that some hidden malignant agency in the atmosphere causes the blight. Those "little black bugs," which have attracted unusual attention the past season, undoubtedly aggravate the evil somewhat, but the theory that they are the sole authors of the mischief, has been not inappropriately termed by Prof. Harris a "humbug." Of two contiguous fields, peopled alike with little bugs and big bugs, of as many colors as the spirits in the Witches' Song—fields of similar soil, dressed alike and planted with the same kind of seed at the same time of the year, but of different aspects or exposures, the one, open to the wind, is blighted, while the other, protected from currents of air, escapes. In the same field, rows, sheltered by the fence or in some other way, continue green and flourishing when all the rest have withered. A few hills covered with glass in the midst of a field, yield sound potatoes, while all the rest are rotton. The track of offensive fogs is suddenly and distinctly marked by the blight. Other plants are affected simultaneously with the potato. Our own water-melon vines, for instance, for the last three years have all been struck fatally at the same time exactly as the potato tops, near which they were growing. These facts, and others of a kindred nature, all point to the atmosphere as containing the noxious cause of the disease; but whether this noxious cause be an excess of carbonic acid, or of carbonate of ammonia, or of "sulphurous chlorine mixed with certain other gases," or of something else, is yet to be determined. It is an unfortunate fact, that, notwithstanding the unparalleled researches bestowed upon the subject, this vegetable cholera, the potato-rot, like the Asiatic cholera, is under the control of laws not yet fully discovered; still the experience of practical agriculturists and the experiments of scientific men, warrant us in the belief that the disease may be alleviated and counteracted to a very great extent. As a means of prevention or at least of alleviation of the rot, we venture to make with some confidence—a confidence engendered by uniform success—the following

RECOMMENDATIONS.

First.—Plant early. The blight, as a general if not universal rule, strikes the tops in the month of August, at any rate not before that time. If planted early, therefore, the sap of the plant may all be assimilated and the potatoes be ripe before the plague comes. Count Gasparin, an eminent French scientific agriculturist, mentions, as reported by the Commissioner of Patents, that "in the south of Europe two crops of potatoes are obtained in one year. The first crop is planted in March and harvested in June; the second is planted in July, after the wheat is cut, and taken up in October. The first of these crops was absolutely sound; the second was diseased."

Second.—Plant on light soils, with thoroughly fermented dressing never put in the hill. The richer the soil and the more abundant and concentrated the manure, the ranker and more luxuriant will be the vines. Let the blight strike the leaves of such vines, when in full sap, and the heat of the weather, however intense, will hardly be able to carry off by evaporation the raw and uncarbonated juices; and if not thus carried off they will as a matter of course become putrescent and eventually corrupt their way down to the tuber. On the other hand, the lighter and feebler the soil, the smaller will be the vines. The probability, therefore, is, that should the blight strike them, the evaporation, especially if the weather should fortunately be dry and hot at the time, would carry off the sap without endangering the tuber. It is worthy of remark, too, that if the soil should be *light-colored*, the reflection of the heat from it would greatly facilitate the process of evaporation.

Third.—Some have supposed, from the well established fact that the potato soon decays when exposed to the action of ammonia, that the blight is caused by an excess of carbonate of ammonia in the atmosphere. If this hypothesis is correct, sprinkling the tops at the right time with sulphate of lime, or plaster, as it is commonly called, would remedy the difficulty at once. The sulphuric acid of the lime drives out the weaker carbonic acid from the ammonia, and takes its place; while at the same time the ill-treated carbonic acid makes suit to the forsaken lime and is promptly accepted. In this way, by a sort of unscriptural exchange of wives, carbonate of ammonia and sulphate of lime become sulphate of ammonia and carbonate of lime—an arrangement, whatever may be said of its morality, very profitable for the soil.

Fourth.—A careful writer, A. G. Comings, before referred to, in a recent number of the *Farmer*, thinks that carbonic acid is the cause of the rot, and that whatever will remove or neutralize this acid, "will be gratefully acknowledged by the afflicted potato." If this supposition is true, the difficulty could be easily remedied by the application of lime to the soil or to the tops or to both. The carbonic acid would immediately unite with the lime and form carbonate of lime, an insoluble salt, familiarly known as chalk or marble—a substance alike inefficient for good or evil to anything that grows. An equally sure remedy would be secured by the agency of any one of the alkalies or of the alkaline earths—the former making with the carbonic acid soluble carbonates, the latter insoluble carbonates.

Fifth.—Select the seed from a field which has not been attacked by the rot. Tubers, apparently sound, if taken from a blighted field, must sympathize more or less with the general disease. Though they may not be absolutely putrescent, yet their tendencies are all that way. Under such circumstances, they may be said to be predisposed to rot, as a child is to sin.

Sixth.—If, in spite of all precautions, the tops should be blighted, cut them off with a scythe *immediately*, close to the ground—the closer the better. This will prevent the diseased sap of the stalk from descending into the tuber. Do not wait an hour after the first symtoms of the blight appear; for if, in the natural circulation of the sap, the tuber becomes inoculated with the virus from the vines, its eventual destruction is sure—"salt can't save it."

Seventh.—The potatoes when dug should be carefully sorted and thoroughly dried; and then placed in small bins in a dry cellar. Coal-dust or powdered charcoal, applied at the rate of five or six quarts to a barrel, is undoubtedly useful as an antiseptic: its extreme porosity enables it to absorb in great quantities moisture and noxious gases, and thus to preserve the potatoes sound.

These precautionary measures we have ventured to suggest to your readers, because we have ourselves found them uniformly beneficial and certain in their effects. They may serve a good purpose, until some benefactor of his race shall discover the specific cause of the disease and its specific remedy. Whatever the future may reveal, we certainly do not yet think that the potato-grower need say in the despairing language of the Moor—"Othello's occupation 's gone." J. G. Hoyt.

Exeter, Nov. 24, 1851.

EVERGREENS FOR A NORTHERN DEFENCE.

It is often necessary to secure certain enclosures from the cold and drifting winds which during the autumnal and winter months, as well as during the earlier periods of spring, blow so constantly from the north. For this purpose I have found no protection superior to that afforded by a close and compact plantation of thrifty evergreens. The silver fir,—(*Pinus sylvestris,*) is a vigorous, thrifty and elegant tree, and when properly transplanted and managed, makes a close and compact defence, which is highly ornate in its appearance, especially during winter, when all around is desolate and dreary to the eye.

Fruit trees that are induced to put forth too early in the spring, and which therefore require to be set on the north of buildings where the propensity to premature inflorescence may be restricted, should be protected by a row of evergreens, which is a much better preventive than high fences, or buildings, as the air has a free circulation, at all seasons, through the boughs, which afford all the necessary advantages, without any of the inconveniences and disadvantages of the former. Paths and roads that, from their exposed locality, are liable to be rendered dangerous or impassable by the obstruction of snow drifts during the winter, should also be sheltered by lines of evergreens. With a little care, and the manuductory suggestions of good taste, these may be made to conduce greatly to the elegance of any place. Barns, out-buildings and even dwelling-houses, protected on the north and west by flourishing and well-arranged plantations of evergreens, are much warmer than those which are nakedly exposed. There is, generally speaking, but little difficulty experienced in making these trees grow. All that appears to be essentially requisite to secure success, is to remove them with proper care, taking with each tree a sufficiency of soil to retain the small roots in a moist state, and in their original position, and to set them firmly and securely in the ground. Mould from the forest in which they have grown is the best manure that can be applied. All fermenting or fermentable manure should be rejected, and if the soil is of a loamy or sandy constitution, clay, mixed with rich garden mould, will be found a most excellent application, especially in the spring. Out of a hundred trees transplanted, scarcely one will fail.—*Germantown Telegraph.*

For the New England Farmer.

NEW YEAR'S MORNING THOUGHTS.

'Tis New Year's morn, and all is still;
And while I silent sit, sober
Reflection throws her mantle o'er
My mind, and thus in breathless
Whispers says,—"Another year is gone;
Another arch in the bridge of life
Has fallen, and with it how many
Lives have perished! Ye who still survive,
Review the past—review your deeds,
And ask why you've escaped.
Is it for your own good works?
Can you claim superior skill
In guiding the frail bark of life
Down Time's rapid tide, in which are
Rocks and shoals innumerable?
Nay, verily; but He who sees the
Sparrow fall, hath still upborn you,
And, if in Him you trust, will ever."

As thus I musing sit, the future
Breaks upon my view. Anticipation
Steals my thoughts, and thus she seems to say,
"Past errors may forgiven be, yet
Better far, never to commit them.
Therefore be wise in future; commence
Anew thy life, firmly resolved to
Pass the present year—if life is spared—
In doing good; then shalt thou be blest,
And have indeed a *Happy Year.*"

Her words are wise, her counsel good,
And may it be well received; may all
Pursue the paths of Peace,—guard well their
Thoughts and acts, and aim at happiness.
So living, when our Father calls,
Cheerfully the summons we'll obey. Aquila

ENGLISH FARMING.

Sam Slick, writing from England, says, "Arter all, they haint got no Indgin corn here; they can't raise it, nor punkin-pies, nor quinces, nor peanuts, nor silk-worms, nor nothin.' Then as to their farmin'—Lord! only look at five great elephant-lookin' beasts in one plough, with one great lummokin' feller to hold the handle, and another to carry the whip, and a boy to lead, whose boots has more iron on 'em than the horses' huffs have, all crawlin' as if they was a-goin' to a funeral. What sort of a way is that to do work? It makes me mad to look at 'em. If there is any airthly clumsy fashion of doin' a thing, that's the way they are sure to git here. They are a be-

nighted, obstinate, bull-headed people, the English, that's a fact, and always was. There is a plow down in Maine that ought to be sent over to the 'World's Fair.' It is a dangerous nondescript, though. The inventor chained it up the afternoon on which he finished it, but it broke loose in the night and killed two cows."

PRACTICAL AGRICULTURE.

Agriculture is the oldest of all the pursuits of man. Abel was a keeper of sheep, and Cain a tiller of the soil. It is one of the most honorable pursuits and one of the most useful. It is the most healthful, the most independent, scientific and erudite. A thorough farmer cannot be such without a knowledge of many sciences. The forecastle hand on shipboard knows how to handle the sails, but he knows no more of the art of navigation, than the tailor on his shop-board, or the physician in his laboratory. So a farmer may, by practice, learn how to handle the plow and the hoe, but a great deal more knowledge than this is included in the art of the husbandman. So much, that the man who knows it all is truly a learned man.

Buffon caused on his statue to be inscribed, "a genius equal to the majesty of nature"—"but," says a learned botanist, "a blade of grass was sufficient to confound his pretensions." A farmer may find a field of science in every plant on his broad acres, whether it be raised by his sweat and skill, or by the despised weed which he seeks to destroy. If he will master all the science of the old oak tree beside his barn, or the pigweed beneath his feet, he will have a stock of learning that will forever afford him a fund of most agreeable contemplation, and at once enable him to improve his farm as it has not yet been improved. The whole vegetable economy furnishes matter for mental food vastly greater than its supply of corporal nutriment, and not less agreeable.

The structure and function and uses of the vegetable world, what is known, and what is unknown of it, can never fail to furnish either most pleasant knowledge or curious matter for research. But the science of vegetable physiology, enough in itself to make a wise man, is only one of many included in the thorough knowledge of agriculture. Geology, botany and chemistry, all must be known, or let a man boast as he may of his knowledge or skill, a blade of grass is sufficient to confound his pretensions. This it is that makes the farmer's pursuit honorable, and if he produces enough for his consumption, no man is so independent and happy. And he is a most useful citizen to the State. No man it has been said is so useful as he who makes two blades of grass grow where but one grew before.

Most frequently a great error is committed by young men, who, revolting from the labor of the farm, and reduced by the fancied road to luxury and wealth, which each dirty street of a city seems to their dazzled senses, quit the plow and resort to the counter, in the delusive dream that they have found the highway to wealth and ease. How many of such are there now in this city, in the decline of life, not only without the anticipated fortune, but destitute of a home!

For the New England Farmer.

SAVE THE MANURE HEAP.

Every man who has kept horses knows how a heap of horse manure will heat and burn. A heap which would measure ten cords will burn away some cords of its bulk, while the process of fermentation is going on. I use the term *burn*, for there is something more than rotting about it.

Stable manure from oxen and cows, if so gathered as to include the urine with the solid excrements of cattle, upon being worked over, will commence a rapid fermentation, and will undergo a great change, becoming less in bulk and very light.

Many persons work over their manure heaps and add quicklime to hasten their fermention, or burning, from the supposition that the manure is greatly benefited by such a change as it undergoes in the heap.

That the manure is so changed as to have a more immediate effect upon the plants it will support, is not disputed. But it is contended that in the course of this fermentation, as it is usually allowed to go on, a very valuable and large portion of its properties are expelled from the heap, go into the air, and are lost.

Such burned manure, when applied to beans, peas, wheat, or other plants needing much nitrogen, and having in their constituents much gluten, would have been very poorly assisted by any quantity of such manure.

For the formation of muscle, in man or beast, food must be taken which contains a large amount of gluten, in which peas, beans and wheat are uncommonly rich. To produce such plants as are rich in gluten, nitrogenous manures must be applied. The urine of animals contains a very large amount, and we may speak of it in the form of ammonia. More or less of it is in every manure heap.

During the fermentation, which I have called burning, of the manure, under ordinary circumstances, the ammonia is separated and goes off in the atmosphere. This is a very great loss. The manure, for ordinary purposes, loses a large portion of its value; while for many crops it becomes nearly valueless. Every farmer and stable-keeper should know how to prevent the escape of the ammonia from his manure heap.

REMEDIES.

Plaster of Paris, (sulphate of lime) has been recommended by some, and is valuable to a certain extent. I do not wish to undervalue it. If a manure heap is covered with it to a sufficient depth, it will retain the ammonia. But such a mere powdering and whitening of the surface of the heap as is sometimes seen, will be of little use.

What sulphuric acid there is with the lime, in forming the plaster, will enter into combination with the ammonia, producing sulphate of ammonia. This is a valuable service. And if the quantity of plaster used is equal to the circumstances of the

case, it will do all that is required. But that will not often be the case.

Plaster is exceedingly valuable, when sown among wheat or peas, or beans, or clover, as a top dressing. It takes into combination with it the nitrogen of the air, and absorbs the ammonia of the falling rain.

To meet the wants of the manure heap, I think that sulphuric acid (oil of vitriol) directly applied with water, will be found much cheaper and more valuable.

Mix with ten gallons of water one pint of the acid, and saturate the manure heap with it, providing of course, according to the size of the heap and its disposition to heat. The sulphuric acid with the ammonia will form sulphate of ammonia, and both of these properties enter into the composition of our most valuable plants or products of the soil.

The cost of a few gallons of sulphuric acid for such a purpose would be money at a very large per cent. interest. But let it be handled cautiously, by the inexperienced, lest injuries be the consequence of carelessness. Put the water into a wooden vessel, and then put the acid to it.

There is nothing lost, in this application. The sulphuric acid would enter into the plants, if applied to the soil separate from the manure.

There is a great profit in it. The most valuable properties of the manure heap are kept from waste. c.

Mason, N. H., Dec. 10, 1851.

THE HORSE.

Because the farmer is located upon his own land, and finds plenty of employment there, it is no reason why he should not look out occasionally from the "loop hole of his retreat" upon the wide world, and himself add something to its pleasures and also gain by its teachings. Nor must we forget to notice how the world wags around us, because we are an agricultural editor, and "find it in the bond" that we must discuss cattle and cucumbers, pigs and potatoes, plows, pumpkins and parsnips.

"No pent up Utica contracts our powers,
But the whole boundless *world* is ours,"

and we shall appropriate such portion of it as will seem to us to be acceptable to the reader in whatever realm it may chance to be.

Here, then, we find a lecture delivered at Manchester, N. H., by Dr. J. V. C. Smith, of Boston, a gentleman who has visited a goodly portion of the world, and has a pleasant way of imparting the information he has gained.

Well, what has all this to do with the horse? asks the reader. Why, surely this, that Doctor Smith visited Palestine, or the Holy Land, a spot crowded with interesting associations for us all, and among other matters spoke of the Horses there. He says,

"They were mostly of a dapple grey color. Had no barns—no hay—their caravansaries were rather like barn yards; he had slept in them—horses were generally fed on chopped straw and beans; about two quarts of the latter to a feed—the straw was used for the purpose of distention, whilst the beans was a highly concentrated nutrition, which alone, would so contract the bowels of the animal as to produce disease—hence the great value of a combination of the straw with the beans.

He thought the same principle of feeding might be practised in this country, and that successfully, both in a physiological and pecuniary view."

THE PLOW.

The Doctor's observation extended to every thing that was to be seen. From the following extract we suspect he has something of an agricultural turn, with all his other gifts. He observes,

"The land was cultivated here under a very great disadvantage—using the same instruments now, that were used two thousand years ago. Here they saw a great tomb cut out of solid stone; on either side of the spacious entrance niches were cut in, and the whole workmanship within evinced great skill and experience. This tomb was built 4000 years ago. Herodotus visited it two thousand years ago, and speaks of it as having been then two thousand years old. In its finished walls were wrought a splendid figure of a young girl dancing; also the plow was there, a fac simile of the plow used by the inhabitants now. This people are very tenacious in their habits. They are very remarkable at horsemanship—train their horses to perform wonders—ride with great speed over rocky crags, and among rolling pebbles. It would, in his opinion, be a hopeless task for an army of 100,000 men to conquer 500 of the meandering horsemen."

A HORN.

It must be interesting to all to observe through what an immense period a single custom will be preserved; simple, yet pregnant with meaning to those who observe it. It is supposed that a portion of the Psalms was written as remotely as the time of Moses. If so, that portion must have been composed over *three thousand* years ago. In the 92d Psalm, the writer says:—"But my *horn* shalt thou exalt like the *horn* of an unicorn;" and in the 148th, "He also exalteth the *horn* of his people, the praise of all his saints." The term frequently occurs in Scripture as a symbol of power and exaltation, as Hannah's declaration in 1st of Samuel, chap. 2, verse 1, "Mine *horn* is exalted in the Lord," and the prophet Zedekiah "made him horns of iron," and told Ahab that with them he should push the Assyrians, until he had consumed them. Bruce, the celebrated African traveller, states that the Abyssinian chiefs and governors of provinces wear them. They are made of different forms and substances; and sometimes, as Dr. Smith says, the cow's horn itself. It is a custom with us on the loss of friends to "wear mourning" and a downcast demeanor; so that the erection of the "horn" in gladness, or depressing it in sorrow, is not much unlike our custom after all, curious as it may seem. The horn was attached to a broad fillet passing round the forehead and tied behind, from the centre of which it projected, and could be raised or depressed at pleasure.

The investigations of modern travellers have explained a great number of allusions and intricate passages of Scripture, which have heretofore remained almost a dead letter to a large majority of readers. But let us see what the Doctor says about "the horn."

"All married women here, wear a *horn*, sometimes a cow's horn from ten to twenty inches long. They also go veiled. David, the Psalmist, spoke of this horn. The position of this singular ornament indicated the feelings of its fair possessor. If, happily, no sorrow mars her peaceful cot, the horn will be erect; but, if sorrow dwell in her habitation, it will be seen to drop down.

He witnessed a marriage ceremony among this peculiar people, and in the procession noticed only one horn, perhaps the mother of the bride. The bride was escorted by a large number of young ladies singing plaintive airs. All the women cover their faces in that country. It would be the height of immodesty for one to go with her face uncovered in the open street. Rebecca of old, when being sought in marriage, took her veil."

THE FIRST EAR OF CORN.

You are probably aware that CORN (Indian corn) is unknown in Paris. It is neither known as green corn, nor as sweet corn, nor as pop corn; as corn in the kernal, or corn on the ear. It is rarely seen, even when ground into Indian meal. I speak of Paris and the neighborhood only; for I believe that it is cultivated in the South of France, to a limited extent, under the name of *mais*. I was, some weeks ago, at a dinner party, given by an American gentleman, at his chateau, in a suburb of Paris. Upon the table were green corn and sweet potatoes, results of perhaps the only efforts ever made to acclimate them here. As the corn was passed around, you might have distinguished the Americans from the French, by noticing who accepted and who declined. The former were eager to renew an acquaintance long since interrupted, while the latter fought shy and kept the waiters at bay. It fell to my lot, however, to initiate into the mysteries of this novel vegetable a young French lady at my right hand. To her, the ear upon her plate was a revelation. Its shape was anomalous, its odor singular, and, moreover, the manner of eating it was barbarous. Before attempting its demolition, many an unanswered inquiry passed through her bewildered little brain. Was the outside a mere rind, inclosing the pulp in the interior? Or was it nutriment to the core, and succulence to the centre? Did it have a stone? Did it intoxicate like the maguey? Would the juice start forth, as from a ripe tomato, at the first immersion of the teeth? Might it not be poisonous, like the nightshade or the toadstool? By this time, her ear was ready, buttered, salted, and each row slit through the centre. I flatter myself that the utter failure of the experiment can in no way be attributed to want of skill here. My pupil ate about half a double row, and then retired from the field, content with the laurels she had won, but perplexed by the cob, and sorely teased by the tissue-like-skin in which kernels were involved. The next day she was taken sick, and was compelled to keep her room. Anxious to prove to her that however lightly she might treat the offending vegetable, it was made, in former times, the subject of thanksgiving to whole races and nations, I sent her an engraving from Mr. Catlin's frightful picture of a 'Chippewa Dance to thank the Great Spirit for Green Corn.' She thought that to a Spirit, that favored the growth and presided over the harvesting of such a product, just such a demonstration would be acceptable. The demoniacal orgies in which those Chippewas were indulging, could not be more fittingly introduced than at a Green Corn Festival."—*Paris correspondent N. Y. Tribune.*

PEARS RUNNING OUT.

Any person conversant with fruit, who will take the trouble to walk through the markets of Philadelphia, where more Seckel pears are to be seen than anywhere else in the world, cannot but be struck with the very small size of these pears. If he has besides been in the habit, as we have been, of seeing the Philadelphia markets at this season, for some years past, he will make the comparison between the Seckel pears of Philadelphia now, and those of ten or fifteen years ago. Then, the Seckel pears might be seen by the wagon load, large, fair, ruddy, and handsome, as well as delicious. If you mention this present degeneracy to a Philadelphian, he will shrug his shoulders, and say, "yes, the Seckel pear is no longer what it once was: I am afraid it is running out."

And yet, if you go to Boston, which is far from being so favorable a climate for fruit culture as that of Philadelphia, you will see Seckel pears so large and fine that you almost doubt their being the same fruit. If you are curious to investigate the history of the Seckel pear culture in the two places, you will not long be at a loss how to account for the difference. In Philadelphia, they trust to nature, and a soil once highly fertile. But the Seckel pear trees have exhausted the soil, because it had only a certain amount of pear tree elements, and languished for more food. In Boston, they know that nature is a hard mother, and they rely on art, trenching the soil twice as deep as nature makes it, and supplying an abundance of food for the growth of the tree and fruit. Hence the average size of the Seckel pear in Philadelphia has dwindled down in twenty years from an inch and three-fourths in diameter to a little more than an inch; while in Boston it has been raised by high culture to between two and three inches in diameter.

Some soils, however, contain in themselves an almost inexhaustible supply of natural food for fruit trees. Even long culture wears out such soils slowly, because the mineral elements of fertility gradually decompose and form new soil. We have before us a couple of Seckel pears, of extraordinary size and beauty, sent us from Brandon, on the James river, Virginia, one of the largest and oldest estates in America, having been cultivated since the earliest settlement of the country. This estate still shows large fields, which under the present good management (i. e. the judicious application of lime,) yield thirty bushels of wheat to the acre. But the Seckle pear trees here, without any special attention, still bear larger and finer fruit than we have seen in Philadelphia. It is useless, with such proofs of the effects of soil and culture upon fruit, for our Philadelphia friends to talk about the "running out" of so modern a pear as the Seckel. It is the soil which has run out, not the variety.—*Downing's Horticulturist.*

For the New England Farmer.

HINTS FOR FARMERS.

BY M. C. SAWYER.

I notice, with pleasure, that the "New England Farmer, with its frank agricultural countenance, now finds its way among our hills, to instruct and entertain the farmer and throw an additional charm around his cottage home, these long winter evenings. And through its columns I wish to say a few words on a subject of vital importance.

The fashion, or fever, long prevalent, of cutting down all trees, not bearing fruit, is decidedly reprehensible. Even shade-trees, in pasture lands, are sacrificed to this gormandizing policy.

Look at the naked acres of New Hampshire, as bare as a desert, yielding a small per cent. of grass! Here, large farms have depreciated in value, in proportion as they have been shorn of rural beauty. If, by stealth, or what he calls poor husbandry, the bushes get a start, on some side hill, the bush scythe is soon in motion, and the ground burnt over, to obtain a meagre crop of rye! This is a bad practice, and radically wrong. These bushes, left undisturbed, in a few years, would have been trees, and the *necessary* tillage land not at all diminished. Within thirty years, I have known thousands of acres of woodland "cleared" and the wood burnt on the ground, under the mistaken idea that cleared land was the more valuable; and that hemlock trees were worthless, saving the small value of "*Bark*," for tanning purposes. Not a vestige now remains, where once stood the primitive Pine, with its cotemporary, the Oak. That ancient race has become extinct—no germ of theirs succeeding!

I observe that people not only go to the city for flour, but also to purchase "clear stuff" for modern dwellings; and will at no distant day, if this exterminating policy is continued, have to go there for their fuel.

"O, woodman, spare that tree!"

Seedlings and sprouts, if properly secured from the ravages of cattle, with a little care in pruning and manuring if need be, will in a few years become sturdy saplings, and noble trees for the next generation. Here are farms, now well wooded with "second growth," that would be of little value if the wood was all cut off.

One cause of those vegetable diseases which scathe the farmer's crops, and sweep over his unprotected fields, is the want of a proper atmospheric balance which the woodlands formerly held over the preponderating gases. These gases, now set free, settle in low places, where the wind whirls not, and miasm, deadly with mildew and disease, is evolved, to the great damage of grains, and esculent roots. And those myriads of insects, that formerly seldom left the forest, but thus lived, fecundated and swarmed, *now* resort to orchards, fruit trees and fields of cereal grain, for that purpose; hence their *apparent* increase.

Farmers should learn the value of the sub-soil plow, and reclaim their worn-out lands—cultivate less *surface*, but more *depth*, and get larger crops. They should improve their meadows, and leave their surplus acres to become wooded, making an investment in "Rural Stocks," for the good of posterity. M. C. S.

Bristol, Dec. 22, 1851.

REMARKS.—We thank our obliging correspondent for his complimentary words; that is just what we are striving to do; to give the Farmer an interesting "agricultural countenance," considering, when we have accomplished this, that one great point is gained towards sending it into some thousands of families where it is now a stranger. And strange as it may seem to those not so immediately interested as ourselves, it is our settled conviction that it would really "instruct and entertain the farmer, and throw an additional charm around his cottage home." We commend the hints of the writer to every one who loves a tree, whether they own it or not. Patience almost ceases to be a virtue, with the Vandal spirit that robs the earth of its beauty and its conservators of health. On our way to the State Fair at Manchester last September, we passed over a tract of country which a few years since was densely covered with a fine forest. Noble old oaks, and pines and hemlocks, stood there, representatives of other generations, and stretching forth their arms as a welcome shelter to the traveller from the burning sun or beating storm. Their blackened trunks were prostrate on the earth; not one was left to catch the passing breeze, and sing the requiem of its murdered fellows; bleak and smouldering desolation presided over the late beautiful scene that a Druid might envy, and the cottages, stuck upon the hill-side, and seething in the broiling noonday sun, looked like the homes of Despair. It would not be an uncommon case to find these same persons earnestly at work next spring in *digging out the stumps of the trees lately cut down*, and transplanting a few sickly shoots for ornament and shade about their dwellings! What untamed spirit is it, in man's bosom, that impels him to this desecration of the useful and beautiful; cutting, as it were, a pathway for the storm-spirit to rage through unmolested, and and an opening for August suns to smite the heads of his unoffending wife and children!

For the New England Farmer.

THE WHEAT CROP.

BY H. POOR.

MR. EDITOR:—It is indeed gratifying to see so deep an interest manifested in growing wheat. In some of the counties in Maine, they have raised sufficient for their own bread. In Massachusetts, Vermont and New Hampshire, the farmers are getting their eyes open to the subject. Is it not time? The past year, and the previous, have wrought wonders in this comparatively new branch of farming. Do we need more proof? We would flatly and unqualifiedly say no, and listen to the voice of *experience* rather than to newspaper editorials that would make a bugbear of a world, or *smut* or *rust* the dread avengers of all coming time. We would say to all, "thank God and take courage."

Every farmer knows well the cost of a barrel of flour, and some of them know, that the last pig, the last calf, the last load of hay, must be parted with to buy flour to feed his hungry little ones

How hard to part with this property, so much needed in the well-regulated requirements of his farm; but so it is; who will deny it.

Then where should he look, to what end should he apply his labor, but to supply that most needy of all things, *bread*, which may be made to spring from the farm, "the blade, the ear, and the full corn in the ear."

Apathy has long brooded over the public mind. Distrust of climate and soil have been erroneous and preconceived notions. And now, when the sunlight of experience, confined to no one single farmer, and to no one single State, hereabout can testify to its entire practicability, why not adopt it?

Mr. Editor, if you doubt, put the question to the farmer, and I will guarantee you an honest response. Ask Mark Morse, Esq., of Francistown, N. H., one of the largest and most intelligent, practical farmers of that State, and he will say to you, from seed raised in Massachusetts, he has taken twenty-five bushels of winter wheat from one bushel of seed, that makes "sweeter flour" than any he can purchase from the west, and as "white," too. His opinion, publicly made in your valuable paper, would do good to the cause. May we call on that gentleman for his views.

All we need is light. Let every farmer speak his experience, and thereby a host of practical believers will follow.

Yours truly, H. P.

North Andover, Dec. 13, 1851.

MR. THOMAS SWEETSER.

In a recent number of the *Granite Farmer*, published at Manchester, N. H., we find an obituary notice of the person whose name we have given above. Although we had no acquaintance with the deceased, and no knowledge of him excepting what we gather from the notice before us, we copy a portion of it with pleasure, because it is given in good taste, cherishes the memory of a good man, and affords evidence that our own efforts in the broad field of husbandry have not been in vain. The writer says:

"Mr. Sweetser was an industrious, worthy citizen, and an intelligent farmer. When a worthy professional man, or a mechanic of notoriety, is taken away from the community, there are usually found many ready to eulogize their characters, and lament their departed worth. Nor do I complain of this. But when from humble life a successful and intelligent farmer is removed, though it may be in the meridian of life, and in the midst of successful effort, how seldom, as a farmer, has his obituary notice been given to the press. I do not recollect, at this moment, a solitary instance of the kind; and it was reflection on this point that led me to send this notice."

After speaking of the early opportunities which the subject of these remarks enjoyed for early education, which were very limited, and of the various pursuits in life in which he engaged, he adds:—

"He 'read what books he could,' and reduced to practice every feasible suggestion. *He relied much upon the New England Farmer, and indeed made that his text-book to direct his farming operations.* He gave great attention to composting manures, and spent very much time and labor upon them; and his waving fields gave tangible proof that his crops were fed by them; and his flocks, that fed upon these products, showed by their thrift that they received from them the elements of life and health.

"He also reclaimed meadow and swamp land with good success, and had others under progress when he died.

"Here are the results of 'Book Farming,' and they are having an excellent effect upon the community in which he lived. While they have lost a kind and friendly neighbor, they have the plain results of judicious, intelligent and efficient labor left."

Who can tell where the good examples of this "honest laborer in God's vineyard" shall end? What waving fields and crowded garners may spring from the word which he spoke, or the work which he did? Or how many, quoting his precepts and copying his examples, shall labor on guided by intelligence, crowning the hills with verdure, and pressing the vales with fatness. Such are the men who "constitute a state," of whom the poet says:

"His youth was innocent; his riper age
Marked with some act of goodness every day;
And watched by eyes that loved him, calm and sage,
Faded his late declining years away.
Cheerful he gave his being up, and went
To share the holy rest that waits a life well spent."

For the New England Farmer.

SIBERIAN CRAB APPLE STOCKS.

Mr. Brown:—The Siberian Crab is generally considered very hardy. It is not affected by cold and heat, nor by sudden changes of weather, as most varieties are. Are stocks from the seed of the same nature, and do they make as large and long-lived trees, as stocks from the seed of other, and large varieties? Mr. Downing, in the Horticulturist, vol. 4, page 197, says, "we know nothing of the effect of grafting the apple on the Siberian Crab stock." Mr. Ives, in his Book of Fruit, page 34, in speaking of dwarfing the apple, says, "our Crab makes a good stock for this purpose." Does he refer to the Siberian Crab stock? Cannot some of your pomological readers give information in regard to this matter? A Young Digger.

Apples.—One of the samples sent us by Mr. Harrison Keyes, of Ludlow, Vt., we should think the Esopus Spitzenberg. Some good judges were of the same opinion. This apple originated at Esopus, on the Hudson, and Mr. Downing says is unsurpassed as a dessert fruit. The other samples are Russet Sweets, but of what origin or name we are unable to say.

Canadian Farmer.—A beautiful paper in the quarto form, with the above title, is published monthly at Montreal. Unlike any agricultural periodical in the States, its pages are embellished with illuminated letters, descriptive of country scenery or farm husbandry. It is printed handsomely and conducted with ability. We are glad to find it upon our table.

We hope Mr. M. has at last made the grand discovery, and shall only charge him twenty per cent. for putting him in the way of obtaining the snug little premium which he claims, by sending his statement to His Excellency without delay.

We are almost sorry to mar the bright prospects of our friend who has made this discovery, but as faithful chroniclers feel bound to say, that, while we believe he is correct in stating that the potato rot is prevented where the vines are protected by buildings, shrubbery or fences, the same remedy has been suggested by others. Indeed, in an exceedingly interesting article on the same subject in another column of this paper, by Professor HOYT, of Exeter, this remedy is alluded to in plain terms.

WORK, WORK.

I have seen and heard of people who thought it beneath them to work—to employ themselves industriously in some useful labor. Beneath them to work! Why, work is the great motto of life; and he who accomplishes the most by his industry is the most truly great man. Aye, and is the most distinguished man among his fellows, too. And the man who so far forgets his duty to himself, his fellow-creatures, and his God—who so far forgets the great blessings of life, as to allow his energies to stagnate in activity and uselessness, had better die; for, says the Holy Writ, "He that will work not, neither shall he eat." An idler is a cumberer of the ground; a weariness and curse to himself, as well as to those around him.

Beneath human beings to work! Look in the artist's studio, the poet's garret, where the Genius of Immortality stands ready to seal his works with her ineffaceable signet, and then you will only see industry standing by her side.

Beneath human beings to work! What but work has tilled our fields, clothed our bodies, built our houses, raised our churches, printed our books, cultivated our minds and souls! "*Work* out your own salvation," says the inspired Apostle to the Gentiles.—*Cornish Banner.*

WORKING DOGS.

In the search after industrial power and economy of human strength, it is wonderful that dogs are left so wholly unemployed in America. Their uses, in other countries, are thus described in a letter from Brussels:—

"Dogs, of almost every breed, are taught to work by the Germans. It looks odd enough to see these sagacious animals, of all descriptions, from the thick-headed bull-dog, and mild and intelligent Newfoundland, down to the candle-leg, half-hound and snappish rat-terrier, all fully employed, instead of lazing away their time as they do here. The majority of the dogs, however, are of the larger kind; and it is quite amusing to see their willingness to work, and the various ways in which they are employed. No person is presumed to use a wheelbarrow without a dog to draw the load, and in vehicles of this kind we saw loads of wood, milk, butter, cabbages, bricks, bread, mortar, and hot coffee, and refreshments for travellers. All the labor that the person behind had to perform, was to act as steersman, while the dog would draw the load, and instantly stop when so ordered. We saw a few cases where the teamsters had become intoxicated and fallen asleep, and the teams had turned around to watch them."

For the New England Farmer.

PACKING MEAT.

MR. EDITOR:—I observe on the first page of your paper of the 20 inst., some remarks from Prof. Refinsque concerning packing meat for family use. We have had doubts many years whether saltpetre was healthful to the family, when used in the meat barrel, and should be glad to change the practice if we can do it without being in danger of losing our meat, or making it too salt. We were intending to butcher an ox to-morrow to lay down for next hay season; but have concluded to wait a week or two to learn something more on this subject. We hope you will publish in your next paper the most approved modern method of packing beef for family use. Truly yours, W.

West Farms, near Middlebury, Vt., Dec. 22.

REMARKS.—No corned beef is better than that salted in clear salt and water, provided it is to be used within three or four weeks from the time of salting. But when it is to be kept several months, something must be added to prevent the meat taking up too much salt. The tendency is for the meat to take up salt and exclude its own juices, thus leaving a hard, dry fibre, penetrated with salt, and about as nutritious and fit for the table, as a boiled heel-tap! We will give our friend a recipe for preserving beef, one which we have tested.

Let the meat be thoroughly cool, but not frozen; sprinkle the bottom of the barrel with clear Turk's Island salt, pack the pieces and sprinkle salt, and in this manner fill the barrel. Add to this 6 pounds of clean brown sugar, sprinkled upon the meat as you pack. This process is only for the cold weather, requires but little salt and the barrel must be kept in a cool place. As soon as the weather becomes warm enough to affect the meat it must be taken out, washed in cold water and put into new brine sufficiently strong to preserve it, adding two pounds of sugar, with cloves and allspice, if desirable.

The following is the recipe of one of the largest beef packers in Quincy market. Three pecks of Turk's Island salt and four pounds of sugar to a barrel of beef. He uses the three pecks of salt beside that used in making the brine.

LIVE FOR SOMETHING.—"Thousands of men," says Chalmers, "breathe, move and live—pass off the stage of life, and are heard of no more—why? they do not partake of good in the world, and none were blessed by them; none could point to them as the means of their redemption; not a line they wrote, not a word they spake, could be recalled; and so they perished; their light went out in darkness and they were not remembered more than insects of yesterday. Will you thus live and die, O man immortal!—Live for something. Do good, and leave behind you a monument of virtue."

For the New England Farmer.

PALMA CHISTI,---CASTOR BEAN.

Messrs. Editors:—In your paper of the 20th Dec., you ask, "will some one who has the knowledge, inform us whether any particular course of culture is necessary for the Castor Bean, what its product is per acre, and the best method of obtaining the oil."

Perhaps some person may answer your queries more accurately and fully than I can do. But as far as I am able, I comply with your request. The Castor Bean is one of the main products in the southern portion of Illinois, where I have resided. I have never cultivated it, however, and speak only from seeing it in the field and from the information of others. The mode of culture is much like that of corn; that is, it is planted in rows and hills. The tillage is also similar. The southern portion of the State, where the Castor Bean is raised, is inferior to the northern and middle portions in fertility. It is mostly a pretty stiff clay, or sometimes a clay loam. The same description of land that is used for corn and wheat, being hill lands. I cannot say what the product is per acre, though I think I have been told about thirty bushels. The oil is made in mills. The producer sells his product at the mills, at about one dollar per bushel, where the oil is pressed out. The pulp remaining after the extraction of the oil is used as a fertilizer, and I have been told is exceedingly good for that purpose. Illinois.

THE AIR RENDERED VISIBLE.

The Paris correspondent of the Washington Republic says:—

"At the last sitting of the Academy of Sciences a very remarkable paper was read. It was presented by a well known engineer, M. Andraud, who has made many public experiments on compressed air as a substitute for steam on railways. I give you a *resume* of the contents of this paper. It is entitled *Æroscopie*, or the Visibility of the Molecules of the air. Some of the deductions made, in a medicinal point of view, are in the highest degree curious. M. Andraud proves that, by a very simple contrivance, the air is rendered visible. By taking a piece of card, colored black, and piercing it with a fine needle, this interesting fact is established. If we look through this hole at the sky, on a fine day, or at a strong lamp, having a ground glass, we see a multitude of little transparent globes moving in the midst of confused nebulosities. These little globes, some of which are more transparent than others, are molecules of air. Some of them are surrounded with a kind of halo. These latter, says M. Andraud, are the elements of oxygen, whilst others are elements of azote. After continuing the observation for some time, we shall see small points detach themselves and disappear in falling; these, says M. Andraud, are atoms of carbon. This phenomenon of vision, it is essential to remark, passes within the eye itself; the molecules of air which are observed, are those which float in the liquid, which occupies the anterior part of that organ. According to the author of this paper, the discovery is not interesting merely as a phenomenon, but may be applied to important purposes in medicine. He says: 'The physician will one day make use of the æroscope as an important means of diagnosis. Vertigo, giddiness, which are the forerunners of apoplexy, will be announced by perturbation in the molecules. Fever always exists when the molecules under the action of a magnetic current circulate on a vertical ground—sometimes in one sense, and sometimes in another; and, when this movement of gyration becomes more precipitate, the patient experiences the singular sensation of turning, as it were, upon a wheel of ixion.'"

PRODUCT OF THREE AND ONE-THIRD RODS OF GROUND.

In the Farmer & Mechanic of last week, we published an article showing what could be raised from *seven-eighths* of an acre of ground, since which we have witnessed a still more striking instance of the remarkable product of a mere "*patch*" of ground in a small back-yard in the city of Brooklyn. Our friend's yard contains at the present time, 16 bearing vines; 10 do. 2 years old, do.; 32 do. 1 year old, do.; 17 seedling, 1 and 2 years old; 45 bearing gooseberry shrubs; 19 bearing currants, do.; 24 raspberry; 24 gooseberries and currants, 1 year old; 30 apple and pear seedlings; 4 do. grafted; 3 cherries, grafted; 4 bearing peaches; 4 budded, do; 20 roses; 120 bearing strawberry plants, winter greens, &c, &c., together with a glass frame with lettuce &c., &c.

Thus on an insignificant spot of just about *one forty-eighth of an acre* are found 75 vines, a part of which are bearing; 112 gooseberry, currant and raspberry shrubs; 45 fruit trees, together with strawberry plants, salad, &c., &c. This to our knowledge is a veritable fact, and may afford a hint to those who think a *very large farm* can only be cultivated with profit to the farmer. If any of our cotemporaries can give an instance of *miniature* husbandry exceeding this, we will try again.—*Farmer and Mechanic.*

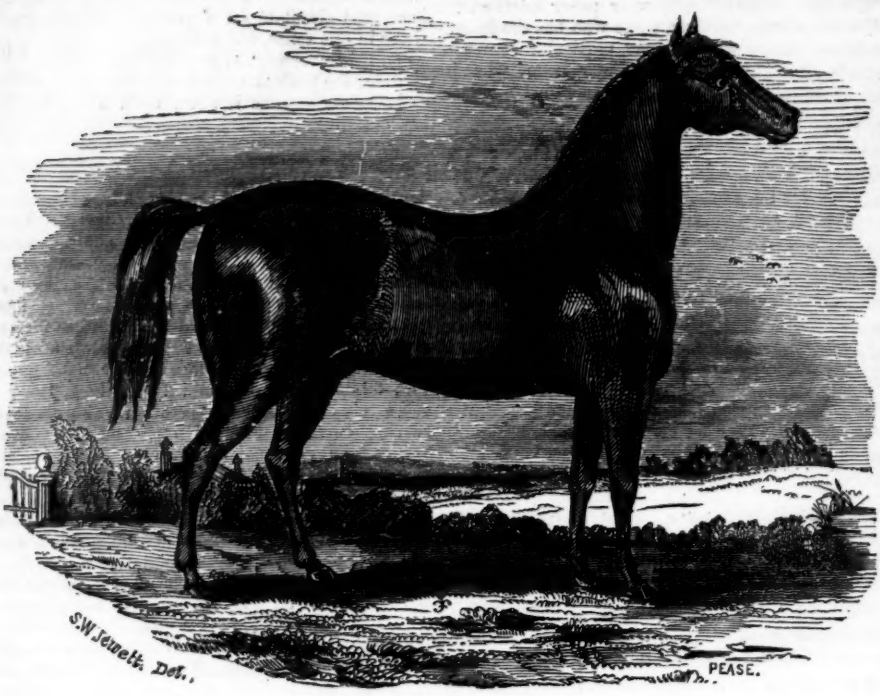
St. Paul's Clock.—A writer in the Foreign Quarterly thus describes the machinery of this great London clock:

"The pendulum is fourteen feet long, and the weight at the end is one hundred weight; the dial on the outside is regulated by a smaller one within; the length of the minute hand on the exterior dials is eight feet, and the weight of each seventy-five pounds; the length of the hour figures two feet and two and a half inches.

The fine-toned bell, which strikes, is clearly distinguished from every other bell in the metropolis, and has been distinctly heard at the distance of twenty miles. It is about ten feet in diameter, and is said to weigh four and a half tons. The bell is tolled on the death of any member of the royal family, of the lord mayor, Bishop of London, or dean of the cathedral.

The whole expense of building the cathedral was about a million and a half pounds sterling—in the United States currency, about six and two-thirds millions of dollars."

Suffolk Pigs.—We have just received, and shipped, three pigs of this breed from the famous stock of J. L. Lovering, Esq., of Hartford, Vt., which we ordered for a gentleman in Virginia. They arrived here in fine condition, and amply sustain the character we have given them before.



BLACK HAWK.

We present our readers with a portrait of the celebrated Morgan Horse, *Black Hawk*. He is of a jet black color; fifteen hands high, and is celebrated for symmetry, action, docility, endurance, loftiness in carriage, great speed and for the improvement of stock.

The reputation of this breed has been well-earned and is thoroughly established upon the basis of utility, and not of fancy; upon their power of sustaining long continued exertion, of health and vigor, enhanced by beauty of form and gentleness of disposition.

Their progeny commands the highest price in the market. They excel in great endurance, carrying weight a long distance; are full of noble and generous spirit, with such docility of temper that the most timid can drive them; but if put to their mettle they are a full hand for the best driver. It is generally believed by those best able to judge of the merits of the horse, that this breed stands pre-eminent among all others. Their firm-set, yet active limbs and graceful carriage, always excite the admiration of the beholder, while the beaming eye and intelligent countenance reminds one of the fabled Centaur, half man and half horse, used among the ancient Thessalians in breaking their ferocious animals.

☞ OVER THE $10,000.

We have received a communication from Mr. T. D. Merrison, of Hill, N. H., in which he states that he has discovered the cause of the potato rot. His letter is directed to "His Excellency the Governor of the State of Massachusetts," and why he should desire it to pass through our hands before reaching that distinguished functionary, we do not know. At any rate, finding it in our mill, we will grind out a little of the wheat and then pass it along to the Governor! He says the disease is occasioned "by *something that comes in a south wind*," which poisons the tops and then descends to the tuber, and that anything that will shelter the vines from these winds will effectually preserve them. So he plants two or three kernels of corn on one side of each potato hill, and where he has done this has saved his crop.

Mr. M. was led to this important discovery on this wise. He built a shed fifty feet long, and on the north side of it planted an acre of potatoes. When they were up and presenting a handsome and vigorous appearance, there came a south wind which prevailed for three days in succession, and immediately after the tops appeared as "though a great fire had swept over them, excepting where the wind was kept off by the shed, and there they were sound and good."

ELECTION OF POSTMASTERS.

We are glad to see that Mr. Allen, of this State, has introduced a resolution in the House of Representatives, instructing the Committee on the Judiciary to report either an amendment to the Constitution, or if Congress in the opinion of said Committee has power to make the change, a bill providing for the election of postmasters by the voters of the towns in which they are located. We believe this movement to be a judicious one, and shall rejoice to see it carried out. The power and patronage entrusted to the executive department of our government are quite too great, and it is time something were done to curtail them. The evil has grown with the growth of the country, so that the administration of the present day has vastly more patronage under its control than was entrusted to the early Presidents. There are over *twenty thousand* postmasters in the United States, dependent upon the executive for their commissions; and when we consider the immense labor required to attend to these appointments, the annoyance caused by the hosts of applicants in every change of administration, and the difficulty of ascertaining whether these twenty thousand men, scattered in every village from Maine to California, are really honest, capable, and obliging, we think it must be admitted that the interests of the country would be benefited by the proposed change. We say, let the people elect their own postmasters, and see if the public are not better served, and if there is not less proscription for party sake than exists under the present system. It would not be necessary or desirable to change the postmaster of a place every year, and to avoid this, he might be elected for a term of three, four or five years. Which of the parties will add this reform to its creed, and hoist an elective postmaster banner?

MILCH COWS.

The following is the Report of the committee on Milch Cows submitted to the Middlesex Society at their Show in September.

Your Committee found in the pens eighteen Milch Cows; of these, two very fine animals, one a Devon and the other an Ayrshire, owned by Wm. Spencer, Esq., of Lowell were offered for exhibition only: of the remaining sixteen, seven, (among which were some animals of handsome appearance,) were unaccompanied with the written statements necessary to entitle the owners to premiums.

Of the remaining nine, one only was an Ayrshire, a noble creature, to the owner of which, Peter Lawson, Esq., of Dracutt, we awarded the first premium for Ayrshires, of eight dollars; this cow, according to the owner's statement, has given an average of sixteen quarts per day during the season, without grain.

Of the remaining eight, four were native breed, two were Durham, one was native and Durham, and one native and Ayrshire—and, as claiming a premium, were all classed as native. They were all "fat fleshed," "well favored kine," to all which, if it had been possible, your committee would have been pleased to give premiums.

We selected for the first premium of eight dollars, a cow, owned by Alexander Wright, of Lowell, from whose statement it appears that this cow is nine years old—calved early in January, 1850, and from the 10th of that month to the 20th of August, 1851, gave nine thousand and twenty-seven quarts of milk, common milk or beer measure; the greatest quantity in one day was twenty-one quarts and one gill—weight per quart of milk, two pounds. Milk is rich in cream, seven quarts of milk producing one pound of butter.

During winter and part of the summer this cow is fed morning and evening as follows: one quart of Indian meal and one quart of shorts, with one gill of malt with boiling water poured on them and cooled. In winter she has a peck of carrots daily at noon in addition.

To the second premium of six dollars, we selected a cow owned by James Tuttle, of South Acton. The Committee considered the cow of Durham breed,—according to the owner's statement, she calved August 30th, 1850, and from that date to Feb. 28th, 1851, she gave two thousand nine hundred and seventy quarts of milk, good grass feed only in summer—in winter two quarts of Indian meal per day and good hay; she is seven years and three months old. For the third premium, we selected a cow owned by Elijah M. Read, of Tewksbury. This cow is eight years and three months old. Calved Feb. 8, 1851, and, as appears by the owner's statement, yielded, from Feb. 12, 1851, twenty-five hundred and seventy-two and three-quarters quarts of milk. Butter of excellent quality produced one pound from 6½ quarts of milk.

No Devons were offered for premiums. All which is submitted, in behalf of the Committee.

Signed, LILLEY EATON, *Chairman.*

SINGULAR FACT.—On the premises of N. Currier, Esq., of Canaan, N. H., we lately saw an apple tree which exhibited a peculiarity which we have never read of or witnessed. The trunk was about one foot in diameter, perfectly sound and smooth, and without any indication either in itself or the roots, of having sprung from two stocks. Some years ago Mr. Currier grafted the entire top with the "Nodhead" apple, which he procured in Plymouth, though the fruit originated in Hollis, as we have been informed, in the orchard of Rev. Mr. Emerson. The grafts were taken from one tree, and inserted at the same time; and yet one half of the top bears one year and the other half the next, and this without variation. How is the fact to be accounted for? Mr. Currier tells us it is a convenient arrangement, since now he is sure of a supply of fine apples every year.—*Cong. Journal.*

☞ *Wheat in Vermont.*—The Bradford, Vt., Gazette says that Mr. William Waterman, of that town, raised, the past season, seventy bushels of winter wheat on two and one fourth acres of land; the wheat will average forty-five and one half pounds of flour to the bushel. The seed before sowing was soaked in strong lime-water. The land was not manured, but deeply plowed.

Horticultural.

NEW PEARS FROM ANGERS, FRANCE.

We copy from Hovey's Horticultural Magazine for January the following extracts from an article relating to a fine collection of Pears, recently received by the Massachusetts Horticultural Society, from the other side of the Atlantic:

The facilities of steam navigation are beginning to be felt in the diffusion of pomological information. Heretofore we could only import with safety fruit trees of various kinds, and patiently await their fruiting before we could decide whether we had obtained the correct kinds; and even then, we were not certain as to the results; for the great similarity of many kinds renders a mere description of the fruit of only comparative value. With the rapidity of steam communication, however, we are now enabled to interchange specimens with foreign cultivators, and thus settle all doubts regarding the identity of varieties; and not only this, but we can learn the value of the newer sorts immediately, by the inspection and trial of the fruit, without waiting for the tree to bear. The first instance of this kind, on anything of an extensive scale, has been the receipt by the Massachusetts Horticultural Society, of upwards of 175 varieties of fruits, sent by A. Leroy, nurseryman of Angers, France. They embraced 116 of pears, 36 of apples, and 19 of other small fruit, including nuts. The package containing them was sent to Liverpool, to be forwarded to Boston, to the care of Messrs. Hovey & Co.; but from some cause, it had laid over a week or more in the former place, and then went to New York, from whence it was forwarded to Boston. But, notwithstanding this delay, many of the pears and apples came to hand in perfect order, and enabled the committee to examine the kinds, and test the quality, of such of the new ones as were in fine condition.

We have not time now to enumerate all these kinds. The specimens were, some of them, very fine, but no better than those of the same kinds which have been exhibited by our own amateurs and nurserymen. The Uvedale's St. Germain weighed 24 ounces. To us, the result of the expedition proves that we can, as Mr. Lowell has said, raise as fine pears "in this State" as the "world produces."

The Use of Fruit.—Instead of standing in any fear of a generous consumption of ripe fruits, we regard them as positively conducive to health. The very maladies commonly assumed to have their origin in the free use of apples, peaches, cherries, melons and wild berries have been quite as prevalent, if not equally destructive, in seasons of scarcity. There are so many erroneous notions entertained of the bad effects of fruit, that it is quite time a counteracting impression should be promulgated, having its foundation in common sense and based on the common observation of the intelligent. We have no patience in reading the endless rules to be observed in this particular department of physical comfort. No one, we imagine, ever lived longer or freer from the paroxysms of disease, by discarding the delicious fruits of the land in which he finds a home. On the contrary, they are necessary to the preservation of health, and are therfore caused to make their appearance at the very time when the condition of the body, operated upon by the deteriorating causes not always understood, requires their grateful, renovating influences.—*Boston Med. and Surg. Journal.*

A Challenge to Horticulturists.—Five years ago I began to set an orchard. This fall I took from one Baldwin tree three bushels and a half of apples like the sample I send you; from a Rhode Island Greening, two and a half bushels; from a Roxbury Russet, a half bushel—all like the samples sent. The manner of cultivating my trees is set forth in a pamphlet I published this fall. I further challenge the United States to produce so fine samples of peach, cherry, plum, pear, apricot and nectarine trees, for the time they have been set. The apples, when transplanted in the orchard, were about six or seven feet high; cherries the same; peaches were maiden plants. The orchard contains 1200 peach, 1500 pear, 200 cherry, and 200 apple trees. I sold from five peach trees $25 worth.—*Genesse Farmer.*

Flowers in Winter.—Last year one of my little girls took an old tin milk pan, filled it with earth, and set it full of garden violets, which flowered all winter. This fall I have taken another, (I would prefer a deeper vessel,) perforated it with holes, set up a stalk in the centre, and surrounded it with young violets that have just begun to blossom, and already I have quite a handsome little flower-garden. The lovers of violets will be well paid by a similar arrangement.—*Ibid.*

Down East, 1851.

Mechanics' Department, Arts, &c.

SUBMARINE RAILROADS.

This is the age of discoveries and inventions, and he would be fool-hardy who pronounces any project chimerical, however astounding it may appear. A gentleman of London, named Hector Horeau, has proposed to build a sub-marine railroad between France and England. The plan is to construct a tube of strong plate iron, and place it on the bottom of the channel, which is twenty-one miles wide, between the two countries, and the water is not deep between the Straits of Dover. It is proposed to propel the carriages by stationary engines at the end of the tube. It is proposed to have strong glass windows in the tube, to light it up by day, and at night it can be easily lighted with gas. Air can be forced through it so as to keep the atmosphere always pure. A light-house placed on each coast, and a number of floating buoys, will indicate the track of the tube, above the water, so as to prevent mariners casting anchor near it. The editor of the *Scientific American*, whose opinion is entitled to great weight, says "the plan appears to be feasible, and we hope it will be carried out, and add a new tribute to the genius and skill of the civil-engineer—England's master-spirit."

A sub-marine bridge of the description named, though on a smaller scale, has also been projected by another engineer. Mr. Cunningham, architect, of Liverpool, has submitted a project to the directors of the various railway companies interested in the communication between Birkenhead and Liver-

pool, for a railway to cross the Mersey, and thus connect Birkenhead and Liverpool, for all kinds of transit.

Mr. Cunningham proposes to sink an iron tube in the bed of the river, buried so completely below the surface thereof that there would be no more obstruction to the currents than at present. The tube would have perpendicular sides and an arched roof. It would be placed in a prepared bed, and would be protected outwardly by various contrivances. Internally there would be two lines of rails running on each side of the tube, with a passage in the middle for pedestrians. The entire work, it is estimated, would not cost more than £250,000.—*Boston Journal.*

CHIMNEYS.

Of all the minor evils which flesh is heir to, there are few which so certainly bring tears into every one's eyes as smoky chimneys. A man of nerve may steel his heart against a great misfortune; he may make no outward signs at the recital of griefs which would rouse a stoic; but take him into a room where the chimney does not draw well, and though he may be, like Othello, "Unused to the melting mood," he will find himself exhibiting all its outward signs, while his heart, strange to say, is growing harder every moment.

That both country and town houses are more or less afflicted with this nuisance is abundantly proved by the chimney pots and ventilators—odious in the eyes of architects—which deform the tops of so many chimneys every where; and there can be no doubt that the multiplication of stoves in parlors and sitting-rooms, of late years, is also owing, in no small degree, to the apparently unavoidable evil of smoky chimneys. Is there any certain remedy for this evil? We answer yes. The difficulty arises, in almost every instance, solely from want of knowledge of the first principles of construction, in the bricklayer who builds the chimney. We have conversed with dozens of mechanics, and have found but two who knew anything of the principles in the matter, or whose practical knowledge did not actually lead them to build chimneys that must inevitably smoke, in every situation exposed to downward currents of air.

The reason why chimneys draw at all, is the natural tendency of heated air to rise; smoke being much lighter than common air. Hence, the warmer the flue, and the smoke which it contains, the better the draught. For this reason a fire lighted in a cold chimney in an interior wall of a house, is more likely to draw well than one built in the exterior wall—the cold of the open air robbing the chimney of a part of its heat.

The cause of smoky chimneys, however, is their imperfect construction at the throat and the top. If a flue, as is most commonly the case, is built of uniform size, from the throat where the smoke enters to the top where it escapes, it is evident that there is a column of heated air in the flue of uniform size from top to bottom. Whatever offers resistance to this column at the top acts equally upon the whole, because the size of the column of smoke at the top is precisely that at the bottom. Now the resistance is that of a current of wind upon the top of the chimney. Every time this current of wind strikes, in a direction more or less downward upon the top of the chimney, a quantity of smoke is driven out of the throat below.

Let us now suppose that with a flue of the same diameter, both the top and the throat are contracted. The effect of this, in the first place, is to break the force of the adverse current of wind; and in the second place, to divide the shock between the size of the opening at the top and that of the whole column of heated smoke in the flue. The effect this will have may be illustrated by supposing a canal, with a gate or opening at the end. Raise this gate across the whole width of the canal—the water flows out. Stop the gate suddenly, and we give a backward motion to the water, in the whole breadth of the canal, many feet distant; but stop it by a gate only half the width of the opening, and we diminish this shock greatly. Now make another narrow passage the width of the small gate, fifty feet behind the gate, and we shall find that the shock of shutting the gate divides itself in a great degree among the particles of surplus water, which makes the difference between the mouth of the gate and the width of the canal behind it. Let the first gate represent the construction at the top of the chimney, and we have the parallel.

The *principle*, then, of building chimneys to draw well, is to contract the openings both at the throat and the top, so as to break the force, with which the wind (or even the air itself in some states of the atmosphere) opposes the ascent of the smoke.—*A. J. Downing.*

A Perforating Machine.—The tunnel of the Troy and Greenfield Railroad, through the Hoosac mountain, is made with one of Wilson's stone-dressing machines. This machine is worked with a steam engine, and will enter from six to fifteen linear feet per day. The cutters are circular plates of cast-steel, of 14 inches diameter, half an inch thick, and ground, with a bevel on each side to an edge. They are placed on the rock, at the angles of about 45 degrees, and roll over the surface with great rapidity. The edge is pressed into the rock with great force and acts as a wedge, prying up and throwing off the rock in a surprising manner. A block of granite, ten feet long and four feet wide, was placed on a carriage, and submitted to a single cutter, guaged to cut two inches from its surface It passed over the entire stone in 22 minutes, and cut off 1600 lbs. of rock, leaving the same as smooth as any hammer-dressed stone.—*Albany Argus.*

Iron Buildings.—Brick, says the Philaledphia Dispatch, is cheaper than iron for buildings; iron is cheaper than brown stone, and the latter is cheaper than marble. Iron is yet a new material. The patterns for castings are the most expensive parts of the cost. After a while, when an infinite variety of patterns are made, which will suit all tastes, iron will be as cheap as brick.

New Patents.—Week ending Dec. 16. Elihu and Warren W. Butcher, of North Bennington, Vt., for improvement in weavers' temples. David H. Richards and Joseph F. Flanders, of Newburyport, Mass. for improvement in rotating tumbler locks. Joseph W. Thorp, of South Ware, N. H., for improvement in apparatus for pressing garments.

Ladies' Department.

DOMESTIC RECEIPTS.

Pumpkin Pudding, No. 1.—A quarter of a pound of butter, sugar to the taste, eight eggs, two table-spoonsful of brandy, one tea-spoonful of cinnamon, one tea-spoonful of grated nutmeg, one pint of mashed pumpkin. Stew the pumpkin in very little water, mash it fine, and add the butter to it whilst it is hot; whisk the eggs and stir into the pumpkin when it is cool enough, and add the other ingredients. Bake in a light paste.

Pumpkin Pudding, No. 2.—Eight eggs, one pint of stewed pumpkin, a quarter of a pound of butter, a quarter of a pound of sugar, two table-spoonsful of brandy, one tea-cup full of cream, one tea-spoonful of cinnamon, one tea-spoonful of nutmeg. Stew the pumpkin in very little water, mash it very fine, add the butter, and stand it away to cool. Beat the eggs, and when the pumpkin is cool add them and the other ingredients. Line your pie-plates with paste, pour in the pumpkin, and bake in a moderately hot oven. When they are to be sent to the table, sift sugar over them.

Quince Pudding.—Six ounces of mashed quinces, half a pound of butter, half a pound of sugar, five eggs, a table-spoonful of brandy. Stew the quinces, mash them very fine, and when nearly cold add to them the butter and sugar beaten to a cream. Whisk the eggs very light and stir in with the other ingredients. Cover your pie-plates with a nice paste, pour in the mixture and bake it.

French Custard Pudding.—One pint of milk, one table-spoonful of flour, three eggs, sugar to the taste. Flavored with rose-water, essence of lemon, or brandy. Put on the milk to boil, mix the flour smoothly with a little cold milk; as soon as the milk boils stir in the mixture of flour and milk. Let it boil one minute, take it off and set away to cool Beat the eggs, and when the milk is cool add them to it with the sugar, then the spice and rose-water, or whatever it is to be flavored with. Line your pie-plates with paste, pour in the above mixture, and bake it in a moderate oven.—*The National Cook-Book.*

THE GOOD WIFE.

The power of a wife for good or evil is irresistible. Home must be the seat of happiness, or it must be for ever unknown. A good wife is to a man wisdom and courage, and strength and endurance. A bad one is confusion, weakness, discomfiture, and despair. No condition is hopeless, when the wife possesses firmness, decision and economy. There is no outward prosperity which can counteract indolence, extravagance, and folly at home. No spirit can long endure bad domestic influence. Man is strong, but his heart is not adamant. He delights in enterprise and action; but to sustain him he needs a tranquil mind and a whole heart. He expands his whole moral force in the conflicts of the world. To recover his equanimity and composure, home must be to him a place of repose, of peace, of cheerfulness, of comfort; and his soul renews its strength again, and goes forth with fresh vigor to encounter the labor and troubles of the world. But if at home he finds no rest, and there is met with bad temper, sullenness, or gloom, or is assailed by discontent, or complaint, or reproaches, the heart breaks, the spirits are crushed, hope vanishes, and the man sinks into despair.

Parental Teaching.—If parents would not trust a child upon the back of a wild horse without bit or bridle, let them not permit him to go forth unskilled in self government. If a child is passionate, teach him by gentle means to curb his temper. If he is greedy, cultivate liberality in him. If he is selfish, promote generosity. If he is sulky, charm him out of it by encouraging frankness and good humor. If he is indolent, accustom him to exertion, and train him so as to perform even onerous duties with alacrity. If pride comes in to make his obedience reluctant, subdue him, either by counsel or discipline. In short, give your children the habit of overcoming their besetting sins. Let them acquire from experience that confidence in themselves which gives security to the practised horseman, even on the back of a high strung steed, and they will triumph over the difficulties and dangers which beset them in the path of life.

Farmer's Apple Pudding.—Stew some tender apples; if the apples are juicy, they will require very little water to cook them; add to one pound of the mashed apple, whilst it is hot, a quarter of a pound of butter, and sugar to the taste. Beat four eggs and stir in when the apple is cold.

Butter the bottom and sides of a deep pudding dish, strew it very thickly with bread crumbs, put in the mixture, and strew bread crumbs plentifully over the top. Set it in a tolerably hot oven, and when baked, sift sugar over.

This is good with a glass of rich milk.

It is a good substitute for pie, and can be eaten by those who cannot partake of pastry.—*National Cook Book.*

Economical Use of Nutmegs.—If a person begins to grate a nutmeg at the stalk end, it will prove hollow throughout; whereas the same nutmeg, grated at the other end, would have proved sound and solid to the last. This circumstance may thus be accounted for: The centre of a nutmeg consists of a number of fibres, issuing from the stalk and its continuation through the centre of the fruit, the other ends of which fibres, though closely surrounded and pressed by the fruit, do not adhere to it. When the stalk is grated away, those fibres, having lost their hold, gradually drop out in succession, and the hollow continues through the whole nut. By beginning at the contrary end, the fibres above-mentioned, are grated off at their core end, with the surrounding fruit, and do not drop out and cause a hole.

Hint to Parents.—Few parents realize how much their children may be taught at home by devoting a few minutes to their instruction every day. Let a parent make a companion of his child, converse with him familiarly, put to him questions, answer inquiries, communicate facts, the result of his reading or observation, awaken his curiosity, explain difficulties, the meaning of things, and the reason of things—and all this in an easy, playful manner, without seeming to impose a task, and he himself will be astonished at the progress which will be made. The experiment is so simple that none need hesitate about its performance.

To Make Preserves Keep.—The secret of preserving them from change is to exclude the air. The easiest way to do this is, to brush over a sheet of paper with the white of an egg, and cover the jar, pressing it down around the edges while moist, and it will cement perfectly tight. It is cheaper, neater and better than sealing up the mouth of the jar with wax or covering it with bladder.

Boy's Department.

A JOVIAL FARMER'S BOY.

O, a jovial farmer's boy I'll be,
As fresh as the birds that sing,
And carrol my merry song of glee
Among the flowers of spring.

O, I would not live in the crowded town,
With its pavement hard and gray,
With its lengthy streets of dusty brown,
And its painted houses gay—

Where every boy his ball may bound
Upon his neighbor's dome,
And every shout and every sound
Disturb some other's home.

The squirrel that leaps from limb to limb,
In the forest waving high,
Or the lark that soars with his matin hymn,
Is not more free than I.

Then give me the trade of a farmer boy,
From city trammels free,
And I'll crack my whip, and cry "Who hoy!"
O, a farmer's boy I'll be!

A CAUTION TO BOYS.

To continue the war against the tobacco-using propensity observed to be very strong of late among boys, we offer an additional fact. A few weeks ago, a youth of sixteen arrived in this city to prosecute his studies with a view to professional life. He came from a distant State, and was to remain here for some years. A week or two after his arrival, he was seized with a paralysis in both legs, which advanced upward till nearly the lower half of his body was benumbed and apparently lifeless. The most distinguished physicians in New York attended the case, but no relief being afforded, the unfortunate young man has been taken on his way home, and there is but little hope of his recovery. The cause of his disease is stated by the physicians to be *tobacco-chewing*—a habit which he early acquired, and persisted in to the time of his attack. —*Home Journal.*

PLAYING TRUANT.

We never knew a boy who was in the habit of playing truant, and wasting the golden hours of youth, to become a great and distinguished man. Most often the idler of early life is the laggard in the world's race. Happy the boy whom parental or friendly care saves from this danger of youthful days.

"The reason why truancy is so serious an evil, is not the loss of a day or two at school now and then,—or any other immediate and direct consequence of it. It is because it is the beginning of a long course of sin; it leads to bad company and to deception, and to vicious habits; it stops the progress of preparation for the duties of life, and hardens the heart, and opens the door for every temptation and sin, which if not closed must bring the poor victim to ruin. These are what constitute its dangers."

These words, written by a learned and good man, it would be wise for every child to ponder well. The fairest day would not then entice them, the merriest companion persuade them, nor the hardest lesson affright them from this path of duty.—*Cambridge Chronicle.*

CATECHISM OF FAMILIAR THINGS.

What is Iron?

One of the most useful and abundant metals; being found in all mineral earths, and stones; in plants, and animal fluids; and is the chief cause of the varieties of color in all. Iron in found in great masses, in various states, in the bowels of the earth; it is usually, however, compounded with stone, from which it is separated by the action of fire. In some parts of the world, whole mountains are formed of iron; among these may be mentioned the Pilot Knob and the Iron Mountain, in Missouri, being unsurpassed by anything of the kind found elsewhere.

What are its characteristics?

It is hard, fusible, not very malleable, but extremely ductile, and very tenacious; it is of a greyish color, and nearly eight times heavier than water. Without iron, society could make no progress in the cultivation of the ground, in mechanical arts or trades, in architecture or navigation; it is therefore of the greatest use to man. Iron tools have been used in all European countries as long as their histories have existed; this metal appears likewise to have been known and used by the inhabitants of the world in the earliest ages, being frequently mentioned in the Holy Scriptures. In the fourth chapter of Genesis, Tubal-cain is spoken of as the "instructor of every artificer in brass and iron," and thus their existence was evidently known at that early period of the world.

Infantine Courage and Generosity.—Two bulls of equal bravery, although by no means equally matched in size and strength, happening to meet near the front of a laird's house in the Highlands of Scotland, began a fierce battle, the noise of which soon drew to one of the windows the lady of the mansion. To her infinite terror, she beheld her only son—a boy between five and six years of age—belaboring with a stiff cudgel the stouter of the belligerents. "Dougald, Dougald, what are you about?" exclaimed the affrighted mother. "Helping the little bull," was the gallant reply.

Lying.—Lying supplies those who are addicted to it with a plausible apology for every crime and with a supposed shelter from punishment. It tempts them to run into danger from the mere expectation of impunity; and when it is practised with frequent success, it teaches them to confound the gradations of guilt, from the effect of which, there is, in their imaginations at least, a sure and common protection. It corrupts the early simplicity of youth; it blasts the fairest blossoms of genius, and will, most assuredly, concentrate every effort by which we may hope to improve the talents and mature the virtues of those whom it infests.

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ALBERT STACY.

Concord, Mass., Dec. 13, 1851. 50—4wis

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For further particulars inquire at this office, or of ELISHA BUNCE, or the subscriber, living on the premises.

SOLOMON RICHARDSON.

Westford, June 28, 1851. 26—tf

Farm for Sale.

A Farm situated in the most pleasant part of the town of BROOKLINE, N. H., containing 40 acres of good land, well divided into mowing, pasture and tillage. The mowing land has all been laid down within five years, and bears a heavy crop, which will continue to increase. The pasturing is equal to any, and is irrigated by a running brook The tillage land is under a high state of cultivation, and needs only to be seen to be admired. The buildings consist of a good house, two barns, and all necessary out-buildings, in good repair.—Also, a good orchard of grafted fruit, with Cherry, Pear, Quince, Peach and Plum trees.

The above will be sold low, as the health of the owner will not stand the labor of a farmer's occupation.

Application may be made to JOSEPH SHARLAND, at 334 Washington Street, Boston, or on the premises to

33—istf THOMAS BOWTHORPE.

For Sale Cheap,

A Farm situated in HOPKINTON, Mass., about 3 miles from Southboro' Depot, containing about 70 acres of land, suitably divided into mowing pasture and tillage, with from 15 to 20 acres of wood land, young growth, mostly pine and maple. There is on the Farm a good two-story house, barn, &c., 2 good wells of never failing water, and a small brook running near the house.

There is about 15 acres of meadow that might easily be converted into good English grass land; nearly the whole is fenced with a stone wall. The farm is somewhat run down, but it is in first rate condition for the purchaser, as its value can be greatly increased by making a few improvements.

For further information apply at the office of the New England Farmer. 41—tf.

Farm for Sale in South Reading.

A small Farm, containing twenty-three acres, with good buildings thereon, will be sold at a bargain. Terms made satisfactory.

Apply to Benj. Cox, Esq., near the premises, or

C. & M. COX,

42—tf 26 and 28 Central St., Boston.

Patent Spring Bow-Pins.

A LARGE lot of patent malleable iron Spring Bow-Pins, of superior quality and finish, just received and for sale at the Quincy Hall Agricultural Warehouse, (over the Market,) by

RUGGLES, NOURSE, MASON & CO.

48—tf

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OF WORCESTER.

GUARANTEE CAPITAL, $100,000.

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Hon. ISAAC DAVIS, } Vice
Hon. STEPHEN SALISBURY, } Presidents.

THIS Company was chartered in March, 1844, and commenced business on the first of June, 1845. Its business is conducted on the most economical principles.

The well considered and invariable policy of this Company has been to prefer the safety and mutuality of the assured to the showy advantages of a large number of policies, and an imposing amount of receipts. California risks have been uniformly declined, and the multiplication of policies in cities considered especially liable to cholera has not been encouraged.

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Pamphlets, explaining the principles and advantages of life assurance, with forms of application and rates of premium, may be had by application at the Office of the Company in Worcester, or of the Agents in all the principal towns in New England. CLARENDON HARRIS, Secretary.

Dec. 27, 1851. 1stf*

AYER'S CHERRY PECTORAL,

FOR THE CURE OF

Coughs, Colds, Hoarseness, Bronchitis, Whooping Cough, Croup, Asthma and Consumption.

THIS remedy is offered to the community with the confidence we feel in an article which seldom fails to realize the happiest effects that can be desired. So wide is the field of its usefulness and so numerous the cases of its cures, that almost every section of the country abounds in persons, publicly known, who have been restored from alarming and even desperate diseases of the lungs, by its use. When once tried, its superiority over every other medicine of its kind is too apparent to escape observation, and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs, which are incident to our climate. And not only in the formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness, &c., and for Children it is the pleasantest and safest medicine that can be obtained. No family should be without it, and those who have used it never will.

HEAR THE PATIENT.

HANOVER, OHIO, April 3, 1850.

Dear Sir: — I wish I could tell all that suffer with a cough, what your Cherry Pectoral has done for me. It does seem they might be benefited by the information. I had a lung fever, which left my lungs weak and inflamed. Being very feeble, and unable to gain strength at all, my friends thought I must soon sink in consumption. I had no appetite, and a dreadful cough was fast wearing me away. I began to take your beautiful medicine, by the advice of a clergyman, who had seen its effects before. It eased my cough at first, and gave me rest at night. In less than a fortnight I could eat well, and my cough had ceased to be troublesome, my appetite returned, and my food nourished me, which soon restored my strength. Now, after five weeks, I am well and strong, with no other help than your Cherry Pectoral.

Yours, with respect, JULIA DEAN.

I hereby certify that the above statement of my wife is in conformity with my own views of her case and her cure by Ayer's Cherry Pectoral. JOSEPH DEAN.

The above-named Joseph Dean, and Julia, his wife, are personally known to me, and implicit confidence may be placed in their statement. SAMUEL C. VAN DERWENT,
Pastor of the Baptist Church.

FROM ONE OF THE FIRST PHYSICIANS IN MAINE.

SACO, ME., April 26, 1849.

Dr. J. C. Ayer, Lowell: — Dear Sir—I am now constantly using your Cherry Pectoral in my practice, and prefer it to any other medicine for pulmonary complaints. From observation of many severe cases, I am convinced tha it will cure coughs, colds and diseases of the lungs, that have put to defiance all other remedies.

I invariably recommend its use in cases of consumption, and consider it much the best remedy known for that disease.

Respectfully yours, I. S. CUSHMAN, M. D.

PREPARED AND SOLD BY JAMES C. AYER,

Practical Chemist, Lowell, Mass.

Nov. 1, 1851. 44—3m

Agricultural Warehouse and Seed Store,

Quincy Hall, over the Market, Boston.

THE Proprietors having recently enlarged their Warehouse, and increased their works at Worcester, would respectfully invite the attention of Planters and Dealers in AGRICULTURAL and HORTICULTURAL IMPLEMENTS, GARDEN and FIELD SEEDS, &c., to their stock, comprising the largest and best assortments to be found in the United States, which are offered at low prices.

Of PLOUGHS—we have the greatest variety of kinds and sizes.

Improved Sod Ploughs, for flat furrows—improved Scotch Ploughs, for lapped furrows—improved Stubble Ploughs, which are especially adapted to deep tillage, or varying from 6 to 12 inches in depth.

Self-sharpening, Hill Side, Sub-soil, Double Mould, Corn, Cotton, and Rice Ploughs.

Cylinder Hay Cutters, Smith's Patent Lever Gate, and others. Patent Corn Shellers, with and without Separators. Seed Sowers, of various sizes and prices. Batchelder's patent Corn Planter, improved. Fanning Mills of various sizes. Horse Powers, Threshing Machines, thermometer Churns, Robbins' patent Centrifugal Churn, Cylinder Churn, Dash Churn, Corn Planters, together with almost every article wanted on the Plantation, Farm or Garden.

Illustrated Catalogues sent gratis on application, post paid.

RUGGLES, NOURSE, MASON & CO.

Boston and Worcester, Mass., March 1, 1851. 10—tf

Pure Devon Stock.

COWS, HEIFERS, BULLS and BULL-CALVES for sale. Apply at Office of N. E. Farmer, or to the subscriber.

B. V. FRENCH,

Dec. 27, 1851. 1yr* Braintree, Mass.

Milk Farm for Sale.

The subscriber offers his Farm for sale, in CONCORD, Mass. It is situated about five minutes ride south-east of the village, on the old Boston turnpike. It contains about 150 acres of land, conveniently divided into lots for mowing, tilling and pasture. Several large fields near the buildings are rich bottom land, producing heavy crops of grass. About 75 tons of hay were cut the present year, and there is pasture sufficient for 15 cows, who go into it directly from the yard, 20 cows are now kept on the farm, and there is a constant demand for milk. There is a variety of fruit, such as Pears, Peaches, Apples and Quinces. The buildings are a large two story house, with convenient out buildings, and a barn 70 by 40 feet, with a cellar 9 feet high under it. Opposite these buildings is a new two story house, built in modern style, containing two handsome parlors, two kitchens, with boilers set, a good cellar, and every convenience desirable. There is plenty of water at the buildings and every other part of the farm. The land is all good and a portion of it of very superior quality. Also, 40 acres of good pasture land in Carlisle, 4 miles distant, will be sold if wanted. This farm affords many advantages to those wishing to engage in the milk business or that of raising stock, and is offered for sale in consequence of the failing health of the subscriber.

☞ The new house and twenty-five acres of land will be sold separately, if desired.

The terms will be made easy and possession given on the 1st of April next.

For further information enquire at N. E. Farmer office or of the subscriber on the premises.

AUGUSTUS TUTTLE.

Nov. 15, 1851. 46—tf.

Garden Seeds.

WE respectfully solicit the attention of purchasers of GARDEN SEEDS to our extensive stock, which we offer for sale. We have all the sorts of Vegetable Seeds that have proved worthy of cultivation; also, Grain, Grass and Flower Seeds. All the varieties are raised and selected expressly for our trade, and we do with confidence recommend them to all who desire to procure seeds that will prove true to their names.

☞ Catalogues gratis, on application.

RUGGLES, NOURSE, MASON & CO.,

33—tf Over Quincy Market, Boston.

Early June Potatoes.

THIS fine variety is fit for the market by the middle of June, as its name indicates. Unlike any other potato, it is as mealy at that season as the Mercer in midwinter. Its eye is good and it also produces as abundantly as the Mercer. They will be delivered on board of any vessel in New York at $4 per barrel of 2½ bushels.

Address S. B. PARSONS, Flushing, near N. Y.

Jan. 3. 2w*

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Fruit Trees.

The proprietors offer for sale a large and fine stock of Fruit, and Ornamental Trees, Shrubs, Buckthorn Plants &c.

Pear, Apple, Peach, Cherry and Plum Trees of choice standard varieties. Also Quinces, Gooseberries, Currants, Raspberries, Strawberries, Grape Vines, &c.

Extra sized Hamburghs for the Conservatory or Grapery. A fine lot of Cherry and Apple Trees, two to four years from bud. The whole for sale at reduced prices.

D. & G. F. STONE.

Hammond Street, East Newton.
Jan. 1, 1852. 4tmos

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Over 300	" "	1000	15	"	"
Over 1000	" "	2000	20	"	"
Over 2000	" "	4000	25	"	"
Over 4000	" "		30	"	"

To prevent any misunderstanding, we quote the 16th section of the law of 3d March, 1845, which is as follows:

SEC. 16. And be it further enacted, that the term "Newspaper," herein before used, shall be, and the same is hereby defined to be, any printed publication, issued in numbers, consisting of not more than two sheets, and published at short stated intervals of not more than one month, conveying intelligence of passing events, and *bona fide extras* and *supplements* of such publication.

PROSPECTUS FOR 1852.

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For further particulars inquire at the New England Farmer Office, or of John Williams, Esq., 83 State Street, Boston.

11—tf.